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The Improvement of Columbia South Carolina

Report to The Civic League, Columbia
South Carolina, by Kelsey & Guild,
Landscape Architects, Boston, Mass.

COMPLIMENTS OF
HARLAN P. KELSEY

The Improvement of Columbia South Carolina

REPORT TO THE CIVIC LEAGUE, COLUMBIA
SOUTH CAROLINA, BY KELSEY & GUILD
LANDSCAPE ARCHITECTS, BOSTON, MASS.

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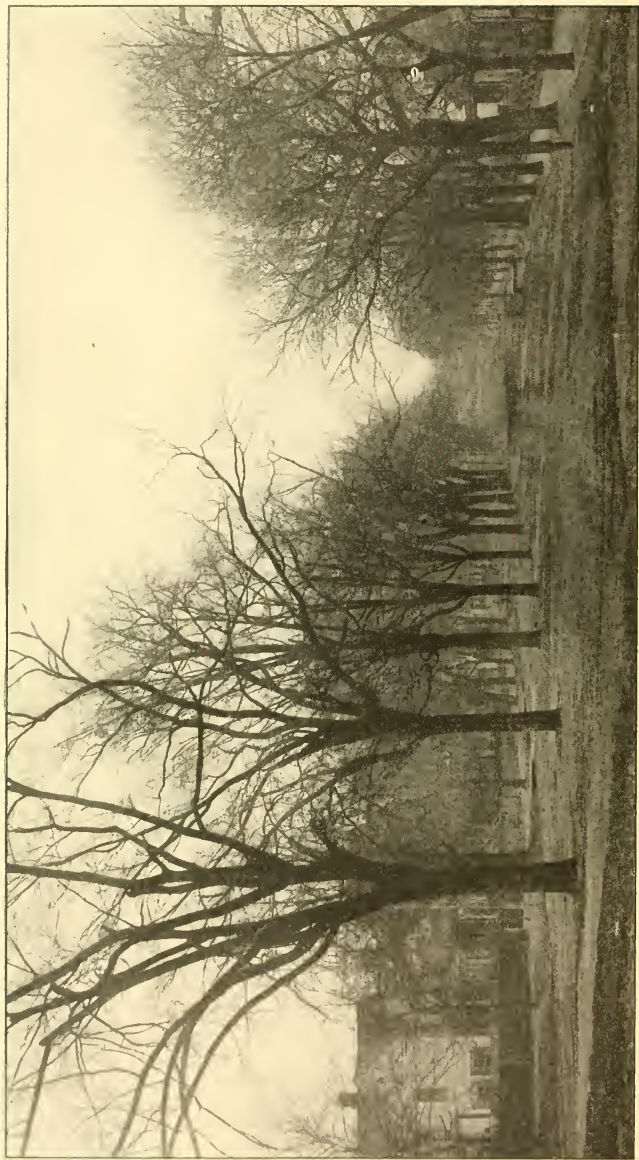
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Mount Pleasant Press
J. Horace McFarland Company
Harrisburg, Pa.

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The Elms on Assembly Street

These elms show lack of food and care, and the effects of crowding. The center and sides of this avenue should be parked and the trees pruned and heavily fertilized. Even now, at this point Assembly street presents a fine appearance and shows that for best results a single species of tree should, as a rule, be planted on each street

The Improvement of Columbia South Carolina

*To the Officers and Members of The Civic League,
Columbia, South Carolina.*

We beg to submit the following report on "The Improvement of the City of Columbia," prepared at the request of your League. We did not deem it desirable, at this time, to place too much emphasis upon detail, because, in doing so, the main objects sought might easily be lost sight of. Such detail can best be determined only after a general scheme of city improvement is finally and permanently adopted.

We have made a close personal study of the territory in and around Columbia during the year, and have carefully examined all available data referring to the city since its foundation.

This report may therefore be considered preliminary, and we trust the general scheme outlined may be found worthy of adoption. In any event, we recommend that a *Joint Improvement Commission* be created by your city and state, with full power to adopt and carry out a systematic, well-conceived scheme of improvement that would not be subject to the passing whims or fancies of even well-intentioned individuals who might be in temporary municipal or state authority.

Only in this way can a plan necessarily involving many years of time for completion be properly initiated and carried out, and the best permanent results secured. With such a Commission, working on broad lines and with far-seeing eyes, the greater Columbia will be made into a dignified capital city, worthy of such a state as South Carolina, and a center which will reflect the best life and character of its people.

The consideration of a comprehensive plan for the development and improvement of any city should be based, to an extent, on the experience of those cities of the world which have advanced farthest in all that goes to make urban life pleasant and profitable; for, in a general way, the principles of growth in all cities are similar, and the lessons of success and failure already recorded else-

where may be applied with great profit, and be the means of avoiding, at the outset, expensive mistakes that later may be impossible of remedy. However, the life and requirements of the southern city are, in many ways, so radically different from those of the city of colder zones, that while the underlying principles of municipal development and progress may be the same the world over, their application in the South, and especially in regard to details, must be very different and designed to meet these special needs.

It is quite probable that this report will be more useful in its suggestions than in the plan outlined. With study, an outsider, viewing with unprejudiced eyes, may often be able to perceive existing conditions that are lost sight of by those in daily contact with their surroundings, and thus be able to suggest means for betterment.

While certain suggestions we make may be found inexpedient, yet, as a whole, we believe them to be logical and quite possible of carrying out economically and successfully.

Desiring to expedite this report, we secured the services of Mr. W. W. Ashe, a well-known botanist of Raleigh, who ably assisted in making a survey of the street trees of Columbia, and in determining the botanical nomenclature of the native trees of Columbia and vicinity.

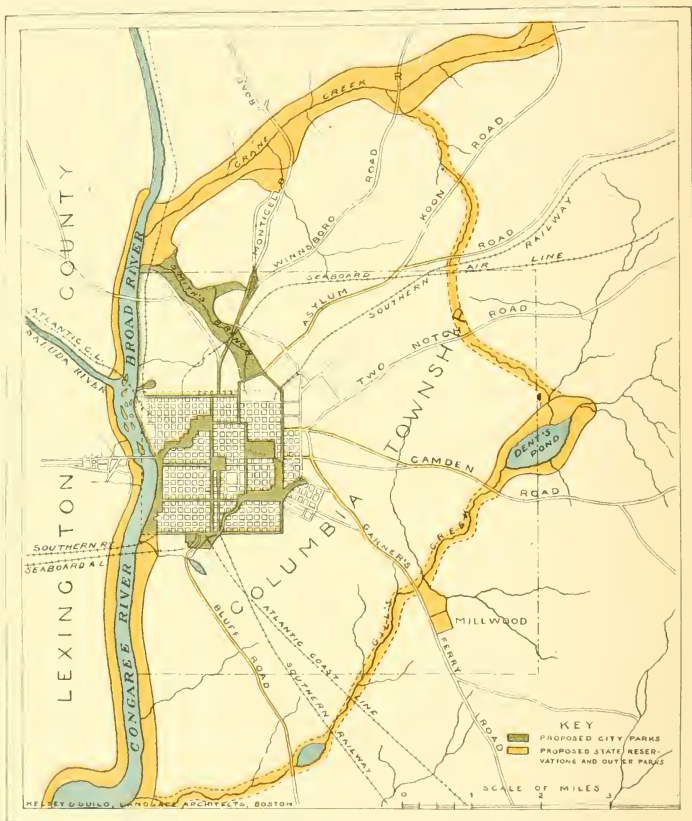
We acknowledge with thanks the many courtesies and much valuable information supplied by many citizens of Columbia, and especially the kind assistance of Miss Belle Williams and other members of your League; Dr. J. W. Babcock, superintendent of the State Hospital; Mr. Clark, secretary of the Columbia Chamber of Commerce; Mr. E. J. Watson, Commissioner of Agriculture, Commerce and Immigration of the State of South Carolina; Secretary of State Gantt and many other state, county and city officials.

Acknowledgement is gladly made to Mr. G. A. Parker, of Hartford, Conn., for valuable suggestions on southern park problems so freely offered on numerous occasions.

Respectfully submitted,

KELSEY & GUILD.

BOSTON, MASS., *October 20, 1905.*



Plan Showing a Suggested System of Inner and Outer Parks and Reservations, and Connecting Roads and Driveways

The Improvement of Columbia South Carolina

PART I. THE DISCUSSION OF A PLAN AND OF VARIOUS DETAILS FOR THE IMPROVEMENT OF COLUMBIA.

1. NEED OF A COMPREHENSIVE PLAN

It is quite recently that cities have awakened to the urgent need of a systematic plan for future development along lines that would provide for parks, playgrounds and boulevards; for sewer, water, lighting and transportation, and at the most reasonable cost to their citizens.

Columbia, like Washington, had the remarkable and unusual privilege of "choosing its own site," and the fortune to have its plan laid out by those who wisely looked far enough into the future to provide uniformly broad streets, wide enough for a metropolis, and capable, under proper treatment, of giving to the entire city a unique, park-like effect, enjoyed by no other city we recall, at least in America. It is extremely unfortunate, however, that the plan was so arbitrary, with apparently little, if any, consideration given to the topography of the land. Even on a flat plane, the gridiron plan can never be said to be entirely satisfactory, and with no diagonal or "ring" (encircling) streets the conditions are still more unfavorable, and become aggravated as the city grows.

Columbia being situated on a broad, undulating plateau, with sudden breaks in the levels, the wide, right-angled streets often have unsatisfactory, or almost impossible, grades (as parts of Assembly, Taylor, Bull, Pickens, and others), or terminate altogether (as Senate, Lady, Washington, Henderson, Barnwell, Blanding and many others).

Had the engineer but provided diagonal streets, radiating from the capitol, and taken into consideration the contour of the land, a much better foundation would have been laid for a convenient and beautiful capital city of large population.

Unfortunately, too, as in Washington, the tendency has ever been to ignore the original street plan on which the city was founded, for the seeming profit or convenience of the moment; and the partial obliteration of some streets, and the narrowing of others, where entirely unnecessary, has resulted. Further, the only park within the corporate limits—once a cool, natural forest of magnificent specimen oaks, pines and other native trees, directly in the heart of the city, with abundant crystal springs bursting from the hillside, which at one time amply supplied a population of thirty thousand*—has disappeared, and a scarred, sun-burned hole, of doubtful use as a railroad dump, coal chute and ice factory, shows the sad results of indifference and lack of foresight now bitterly regretted by Columbia's citizens.†

Not only this, but Columbia, with its sudden increase in wealth and population, caused by the South's general prosperity, and the centering here of new manufacturing industries, has long since outgrown the two-mile-square limit of its founders, and serious problems of street extension, sanitation, water-supply, police and fire protection, are confronting the "greater city," and cannot longer be ignored. With the tide of trade and manufacturing turning south, it takes but little foresight to predict of the future Columbia a city of vastly increased dimensions, population and wealth.

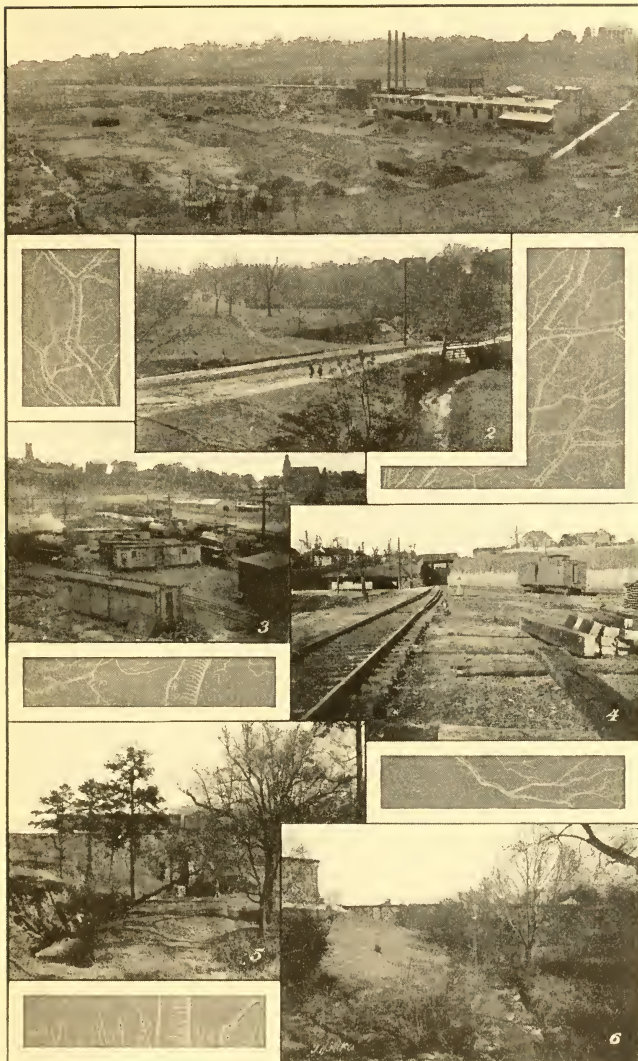
Is it not, therefore, the veriest part of wisdom to acknowledge present conditions, and as far as possible anticipate the needs of the future, so that expensive mistakes may be avoided and a "city beautiful" result, rather than a "city of chance," with sore spots festering within and without narrowed corporate limits!

Had it not been for its original plan, establishing wide streets, it is plain that Columbia today would be merely the ordinary American city of narrow, tortuous, disconnected streets, so extremely difficult of treatment that the carrying out of an adequate city plan would be possible only at enormous expenditure.

* South Carolina Resources.

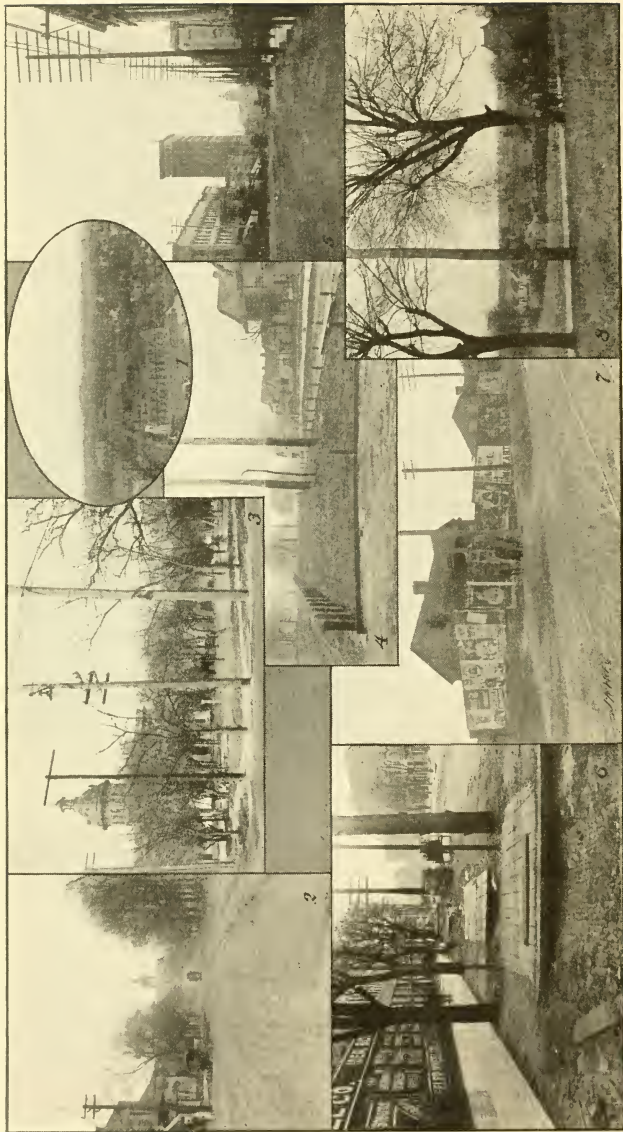
† Sidney Park.—"Originally these lands were covered with a magnificent growth of immense oaks, hickories and pines. . . . Natural springs issuing from a valley between the town and river afford an excellent supply of water, which is raised 120 feet by steam power for use at the rate of 1,000,000 gallons per day. . . . Columbia is noted for the beauty of its public and private grounds, and for its beautiful flower gardens. Sidney Park covers twenty acres, furnishing attractive promenades."—*South Carolina Resources*.

"The Seaboard Air Line Railroad Company instituted proceedings to condemn Sidney Park for a railroad station in this city. The City Council made merely formal objection and the empaneled jury assessed its value at \$30,000, which was paid to the city. . . . As soon as the Railroad Company obtained possession they at once proceeded to convert the trees into firewood, the shrubbery into trash, and the park into a big hole in the ground. It is now used as a place of storage for cars, and for leased industries."—*Extract from letter dated December 8, 1904*.



Sidney Park and Parkway

1. The destruction of Sidney Park. 2. From Seaboard Air Line fill. 3. Locomotive yards.
4. Entrance of Seaboard Air Line Railroad into Columbia. 5. Sidney Parkway. 6. Fringe of trees along brook.



Some City Conditions in Columbia, S. C.

1. From top of "sky-scraper" northward, the direction of residential growth. 2. South Main street approach to capitol, site of proposed "Group Plan." Capitol grounds, corner Sumter and Senate streets, showing starved, crowded condition of trees. 4. A beginning on Assembly street. 5. North Main street approach to capitol; the "sky-scraper" dwarfs and belittles the monumental capitol building. 6. Columbia's "gutter bridges." 7. Main street approach from station, lined with billboards. 8. Crowded negro tenements off Elmwood avenue, retarding proper city development.

What would now be the cost of widening Main street alone to its present width had it been built up as a narrow thirty-five or forty-foot street?

Today American cities are paying millions of dollars for widening streets and securing park areas, where thousands would have sufficed, had reasonable foresight been used and a plan made and adhered to that would have provided for the needs of future growth.

Harrisburg, Pa., for example, a city but little larger than Columbia, has recently voted \$1,090,000 for good streets, water, sewer and park systems. Careful plans have been prepared by experts in each line, all working together so that the improvements are harmonious, and they have proceeded rapidly on these lines with great success.

Boston* also has already spent millions of dollars for the extension of boulevards and a park system, and the results of careful planning for the future is better seen here, perhaps, than anywhere else in America.

Louisville, Detroit, Springfield, Mass., Providence, Hartford, Seattle and many other smaller cities, are carrying out extensive park and city improvements along carefully considered lines, while New York, Philadelphia, Chicago, St. Louis, Buffalo, and Cleveland are considering plans involving vast expenditure and many years' time for completion.

In studying the conditions of growth obtaining in Columbia, we have been much impressed with the rapid development of the outlying suburban districts immediately adjoining the city limits. The suddenly narrowed streets and utter lack of uniformity of plan and administration one encounters on reaching the city's boundary give a warning that, unless soon heeded, disastrous conditions will result, impossible of remedy, except at a cost almost prohibitive.

The outlying districts need the fire and police protection, paved streets, water and sewer systems, and the schools of Columbia; but far more does the city itself need the suburbs, to protect itself against poor and imperfect sanitation, and polluted air and water; and to secure, before too late, available areas for park purposes. Especially is it necessary to control the development of streets, boulevards and blocks, which, unless laid out somewhat in

*"Boston has, until very lately, grown in a most accidental and haphazard way. It has cost the city more to undo the mistakes perpetrated through the short-sightedness of former generations than it has to provide for its legitimate growth. It is, therefore, time for it to grow intelligently, and to proceed along carefully considered lines of development. These lines have already been laid down or are now being laid down, in several important directions, and their extension in others is thereby made all the more desirable."—*Mass. House No. 150 Report of Metropolitan Park Commission.*

accordance with the broad lines of Columbia's original plan, will soon hedge in the city with an iron-bound network of narrow, inconvenient, alley-like streets and roads, totally unfit to become an integral part of any city.

From an esthetic standpoint, the conditions are even now intolerable; the broad, shaded streets of the city usually terminating in what are little more than alleys, or at best, narrow country roads, often lined with small negro houses, abutting the sidewalks. As population increases, the streets become inadequate to the demands of traffic, and give little leeway for underground systems of conduits, and no room for shade trees or park strips. But, perhaps, the most evil results come from the building up of cheap residence and tenement districts in a continuous belt around the present city, lessening valuations and congesting the very population that should, at least from a sanitary standpoint, have every chance for fresh air and breathing space.

Why should Columbia, with its wonderful opportunity of being noted as the "City of Magnificent Streets," allow itself, through inaction and lack of foresight, to be "built in" by sporadic growth and the stupidity of land "improvement" companies, and awaken too late, only to find much of the evil impossible of correction?

The suburb of Shandon is a notable exception, broad streets being here the rule. Some day, Columbia will appreciate the fact more fully than at present.

Land companies, in their anxiety to use every possible inch of land for building purposes, continually fail to realize that narrow streets and twenty-foot lots often defeat the very objects they are seeking. Such conditions attract the cheaper class of builders only, and never make attractive residence centers of high land valuation.

So much of the proper future development of Columbia depends on the actual municipal control of these suburban districts, which are even now a physical part of the city, that we would urge such immediate action as may be necessary to accomplish this purpose.

Practically all of the important cities of the United States have provided, or are now providing, an adequate system of parks, the best planned being usually connected by boulevards or parkways.

Where in a small town a central "square" is perhaps sufficient,—the citizens being able to reach the country in any direction within a few minutes' walk,—as the built-up area increases, and the population becomes more dense and congested, the opportunities of the individual for outdoor recreation decrease.

Columbia is fast becoming a great industrial center, and upon

the health, happiness and well-being of the laboring classes must depend no small proportion of its future prosperity. With parks and playgrounds so accessible as to be within easy walking reach, the vitality of every man, woman and child who labors will be increased and his potentiality in every way enhanced.

Without these means of recreation and rejuvenation, physical and moral degeneration must surely mark the city's industrial development, with danger of our native-born laborer being forced out and an undesirable foreign element taking his place. Mr. Andrew Cowan, Park Commissioner of Louisville, Ky., has very happily expressed the meaning and value of parks in the following words: "The use of public parks is to promote the well-being and happiness of the people, to alleviate the hard conditions of crowded humanity, to encourage outdoor recreations and intimacy with Nature, to fill the lungs of tired workers from city factories and shops with pure and wholesome air, whenever they will or can afford to spend a day in shady groves, under spreading trees or on the jeweled meadows. They are havens of sweetness and rest for mothers and wives and sweethearts; above all, they are for the children, for all the people, high and low, rich and poor, without distinction, with equal rights and privileges for every class. A city that does not now acknowledge the necessity for public parks, as a means for promoting the welfare and happiness of its people, and recognize the substantial advantages that follow the making of a city attractive and comfortable as a place of residence, is not progressing, but is already on the wane."

The average city pays too dearly for its park system, not that it is not worth the cost, but because it might have been acquired more cheaply had reasonable foresight and imagination and sufficient faith *in the future needs and growth of the city* been applied by its citizens.

Before it is realized, suburbs lose their charm and become fully urbanized, and it is then extremely difficult, except at great cost, to widen streets and to secure adequate open spaces for playgrounds and parks, or to place them in the proper localities.

Even at great cost, park systems almost invariably prove to be extremely valuable investments to the city, looking at the financial side alone. From the report of the New York Park Commissioners, we find that Central Park, the first large city park in America, and Prospect Park in Brooklyn, furnish striking examples. "In 1856, the assessed valuation of the three wards adjoining Central Park was \$20,429,565. In 1873, it had increased

to \$236,081,515, a gain in seventeen years of \$215,651,950. The natural average increase of three other wards in the city, when all the wards had been averaged, was \$53,000,000, making the earning capacity of the park for that period \$183,081,515. In Brooklyn, in 1864, when Prospect Park, with its 515 acres of land was acquired, the assessed valuation of the three neighboring wards was \$19,949,395, and at the end of three years the valuation had risen 38 per cent, or over \$7,000,000—which, by the way, was twice the cost of the land which had been parked.”

W. E. Edgerton, Superintendent of Parks of Albany, New York, says of the Albany Parks: “The history of Albany is that the value of the ground contiguous to the parks has not only doubled, but quadrupled and sextupled. One piece of property was worth \$8,500, and, by the simple expenditure of \$4,800 on it, the value of that property was raised more than forty times in eight years.”

In their Eleventh Annual Report, the Park Commissioners of Boston, in referring to the Back Bay improvements, show an increased valuation in eight years of \$11,935,449, with a total increase of revenue from taxes of \$280,734.

Mr. W. H. Harmon, secretary of the Chicago Park Department, in a letter to the secretary of the New York Park Association, says, in reference to the effect of parks upon the value of adjacent land: “The immediate effect was to double and quadruple property.”

Bulletin No. 3, Park Department, American Civic Association, states: “In Brookline, Mass., a town of thirteen thousand inhabitants, the pecuniary advantage of parks is thus spoken of by the secretary of the Park Board in that town: ‘Beacon street was widened into a parkway at a cost of \$615,000. In six years the increase in assessed values of land on each side of the street, throughout its entire length, and for an approximate distance of only five hundred feet from the side line, is \$4,330,400, with no allowance for any increase in personal estate incident thereto. The Beacon parkway is, therefore, paying for itself long before its most zealous advocates thought it would, and is a striking proof that well-considered plans for large public improvements of this kind are profitable ventures.’”

These examples of increased valuation, and consequent increase of revenue, following city improvements, and particularly park extension, could be multiplied indefinitely. Ruskin says: “You may have thought that beauty was expensive. You are wrong. It is ugliness that costs.”

2. WHAT A PLAN SHOULD INCLUDE

A comprehensive plan for the development of a city should consider well the tendencies of growth, and the physical features that to an extent must in the future govern such growth.

It must reasonably anticipate the needs of the community as indicated by the present and future business and social requirements, and should, as far as possible, reflect the traditions and character of its people, while at the same time suggesting the best in municipal advancement that may with profit be locally applied.

It should especially consider local conditions, for no two cities are in all ways alike, and be so designed that the individuality of a community is emphasized.

It should be consistent as a whole, its parts having proper relation to each other both as to general design and detail, so that improvements undertaken at any given point may, in the end, harmoniously adapt themselves to the general scheme.

Such a plan, therefore, involves not only general considerations of city growth,* but must include its main parts governing the establishment and extension of parks, playgrounds, boulevards and streets and the location of public buildings and institutions.

Such questions as tree planting, the paving of streets, the location of statues, monuments and drinking fountains, the preservation of historic spots, public lighting, sidewalks, manner of indicating street names, and other like matters must be treated with more or less detail, and should tend toward cultivating in the minds of the public a taste and desire for the most highly artistic and appropriate in the small things that make up so large a part of a city's attractiveness.

Finally, a plan to be of practical value must be, as carefully as possible, gauged to the resources of a community. While city improvements of necessity entail large original cost, no plan can be considered a good one that requires extravagant expenditure or imposes a greater burden for construction or maintenance than can comfortably be sustained. And the most successful plan is one in

* "The wisdom of adopting a general scheme, which may be modified in detail as occasion requires, but which will be planned in its general features in advance of urban growth, executed as rapidly as possible and in harmony with which parks will be constructed, monuments erected, public buildings located and other structures provided, is evidenced by foreign experience. There is continuity and harmony in the various improvements, and the work accomplished by each generation does not need to be undone by the succeeding generation. Instead of conflict, each additional improvement adds far more than indicated by its cost, and the improvements already carried out add tone and character to the new work, which would be lacking if there were no interdependence and if they had been carried out in a haphazard way."—*Milo Roy Maltbie, in Civic Art in Northern Europe.*

which the improvements, in the end, pay for themselves in a financial way, at least in part, and with a large surplus invested in the health, happiness and social betterment of the community.

3. A CIVIC CENTER OR GROUP PLAN

The grouping in a city of public or semi-public buildings offers two important and convincing advantages. First, by the centralizing of public business it adds immeasurably to the convenience of the officials and of the general public, and is therefore conducive to economy in the conduct of such business. Second, by arrangement around an open space or mall, the dignity and architectural importance of each building is enhanced by those around it, while the larger group forms a unit which can be treated with proper regard for architectural effect and in a manner commensurate with its civic importance,—a result entirely impossible if the buildings are scattered promiscuously throughout the city.

That such a plan may be economical, when viewed from the financial standpoint alone, is proved by figures submitted by the Cleveland Group Plan Commission, which show that the city will secure a magnificent group of imposing public buildings, arranged around a great central mall supplying ample approaches from a new union station and an esplanade facing the lake, at a cost less than would be required to provide independent sites for the same buildings.

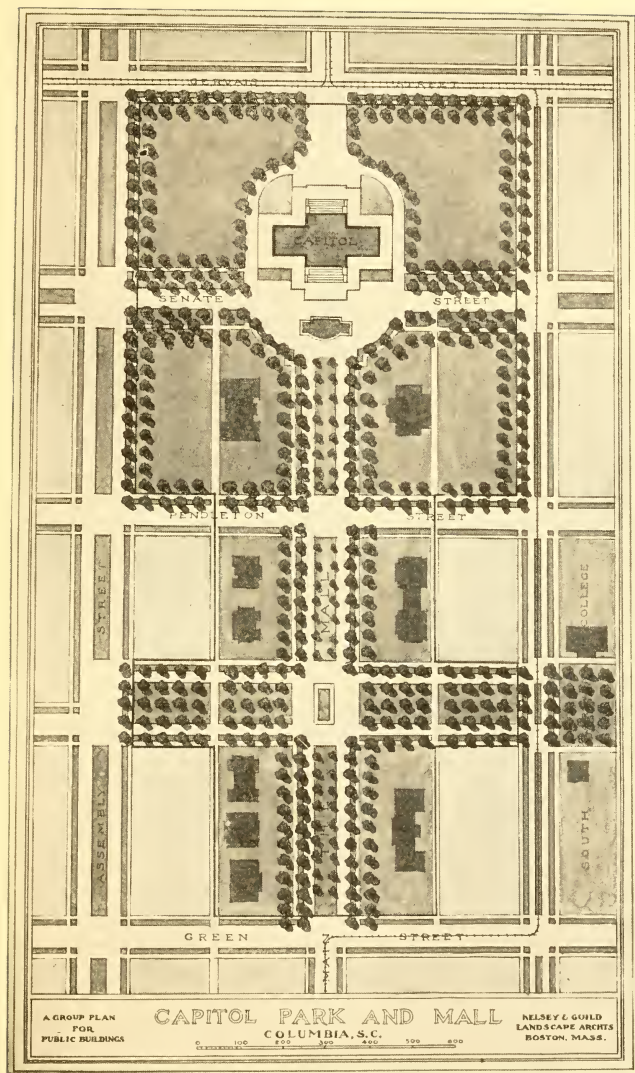
No less than six American cities (Cleveland, St. Louis, Buffalo, St. Paul, Hartford and Providence) have already prepared such group plans, or are actually carrying them out at enormous expense, while the experience of European cities uniformly condemns the haphazard location of public buildings.

There is hardly an important city in this country that is not facing this question, now universally recognized as a problem of prime and vital importance.

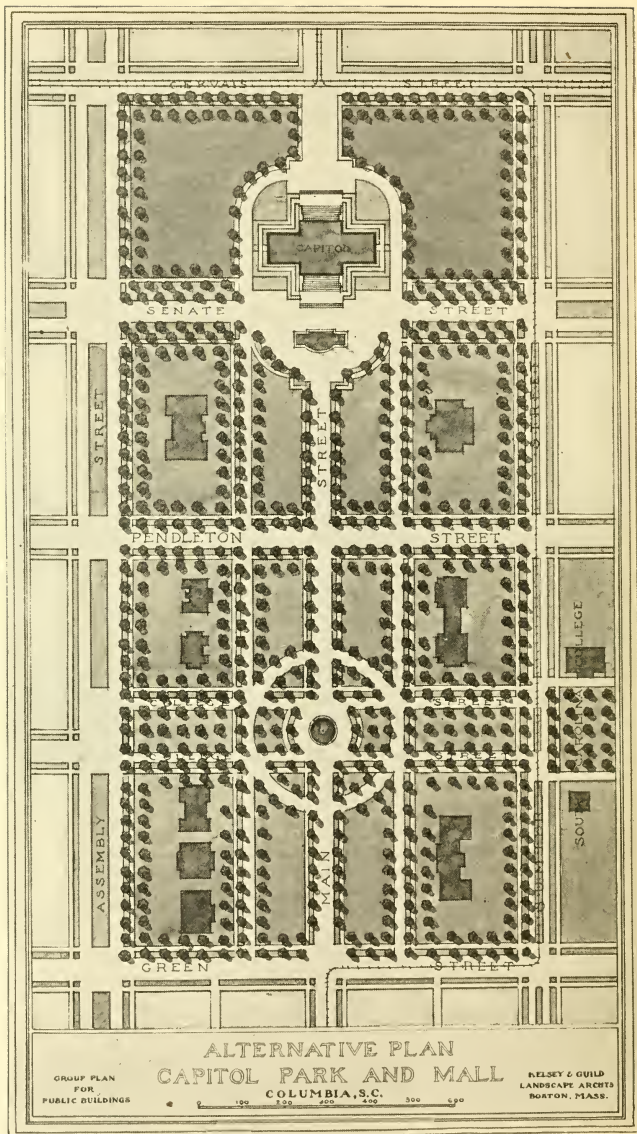
Washington has not only returned to its original splendid street plan, abandoned over fifty years ago, but proposes in the future to intelligently group all new public buildings according to a logical scheme, devised by a commission appointed several years since.

As noted before, Columbia is unfortunate in having no diagonal streets to furnish vistas, circles and triangles, such, for instance, as those to be found in Washington.* While there are but few public buildings outside the Capitol architecturally worthy of perpetu

* Washington has 275 such spots less than an acre in extent, nearly all at the intersection of parallel and diagonal streets.



A Suggested Civic Center for the Grouping of Columbia's Future Public Buildings



Alternative Plan for Civic Center

The area included in this plan occupies six city blocks, or about twenty-two acres exclusive of streets. Its acquirement would be comparatively easy, as there are very few buildings located on it at present of even moderate valuation.

ation, a number of fine old antebellum buildings,* still in public use, exist in different parts of the city, of quiet and unpretending architecture, and rich in historic associations. As these become inadequate for municipal and county needs, they should be carefully preserved and jealously guarded for their historic interest.

In a group plan, it is of fundamental importance that the general style of architecture of the different buildings be the same. It is evident that such a grouping should radiate from the Capitol, this being the building of greatest prominence and importance. Therefore a style agreeing with the Capitol is necessary. The simple forms, familiar in the classic Renaissance of the South, which has come to be known as the "Colonial style," would seem most harmonious, and would give the most fitting architectural expression,—in keeping, also, with the best traditions of Southern architecture.

The recently erected City Hall and Opera House directly in front of the Capitol is a striking example of the lack of both a scheme for grouping and the entire absence of an architectural motive for the city's public buildings. Its style, whether good or not in itself, is certainly in total discord with the dignified lines of the Capitol, detracting materially from the prospect both looking from and toward the Capitol grounds. Its location directly on the street is unfortunate, in not providing suitable perspective for its front, or surrounding areas that might be made attractive with lawn and shrubbery.

No city, large or small, can afford to ignore such important considerations, which bears so vitally on its appearance, convenience and permanent prosperity.

Nothing else so impresses a visitor within a city, favorably or unfavorably, as the general appearance of the public buildings, grounds and streets, and the manner in which they are cared for.

Dirty streets, slovenly kept buildings, and littered-up grounds, have caused many a stranger to quickly transact his necessary business and betake himself to more congenial odors and scenes, carrying with him an uncomplimentary (but we are glad to say, often erroneous) opinion of the citizens themselves.

If, however, the traveler's introduction is through a broad, well-paved boulevard, lined with noble shade trees, and flanked on either side with groups of dignified, clean public buildings, each surrounded by abundant light and air, and with smoothly kept

* Notably, Public School Building, Laurel and Pickens streets; The South Carolina College for Women, Pickens street; The First Baptist Church, Plain near Marion streets; the County Court House, Washington and Sumter streets, and others.

lawns,—the whole a scene of harmony and beauty,—his feelings are exalted and he unconsciously places the aims and ideals of the inhabitants on the same high plane.

4. THE TOPOGRAPHY OF COLUMBIA AND VICINITY AND ITS CHIEF LANDSCAPE FEATURES, AS RELATED TO IMPROVEMENTS

Within its present two-mile-square limits, Columbia presents a rather varied topography, the highest point being approximately one hundred and fifty feet above the Congaree River on East Gervais street.

This variation in elevation is often very sudden, notably on the streets bordering upon Sidney Park, at Lady and Washington streets, where they intersect with Pickens street, at Senate, Pendleton and College streets at the crossing of Laurens street, and in many other places to a hardly less degree.

At these points it is quite impossible to adhere to the existing gridiron plan of streets, a frank departure having already been made where it was found impossible to secure a reasonable grade to satisfy the demands of traffic. The city should exercise great care to preserve its title to such portions of the original street system as may thus prove wise to abandon, until their proper permanent use is decided. For it is quite often the case that these very sections with extremes of grade, and which are of little building value, are best adapted to the making of interesting parks and squares.

Perhaps the most striking example of the city's relinquishment of street ownership may be seen in the section bounded by Pickens, Plain, Laurel and Gervais streets, where the title to certain parts of those streets which originally passed through this area has evidently been transferred to private parties. As a result, the greater part of twelve city blocks in the very heart of the residential section of the city, and but little more than three blocks distant from the State Capitol, is given over to the cheapest negro tenements, in many places the back wall of one house closely crowding the front door-steps of another.

An examination shows the sanitary conditions here to be intolerable, much of the sewage from tenements on the higher ground passing under those on lower elevations, till it finds an abiding place in the low swampy center of the tract, there to reek and fester in the hot sun, the breeding place of typhoid and other disease germs.

Picture this same tract swept clear of all buildings and sore spots, and converted into a small park, with trees and shady walks, a tiny lake with foliated banks nestling near the center, and a high outlook at the termination of Lady or Washington streets from which the whole may be viewed, and one sees some of the possibilities in these "unavailable" spots if Columbia will but take advantage of them.

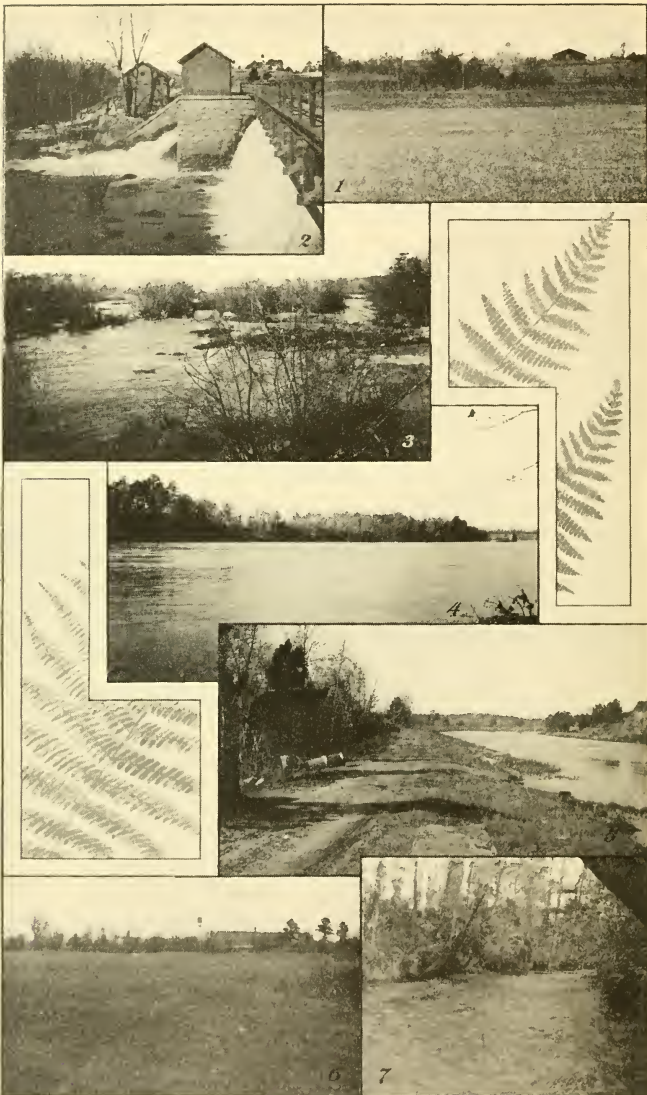
On the western side of the city, what was once Sidney Park, and the valley extending from it to the Congaree River, has even greater possibilities,—the total area being larger, the elevations more abrupt, and the configuration of the land more varied and interesting. Magnificent views may be had from the high surrounding property, which has the benefit of the dry southwest summer breezes. Yet, owing to the destruction of this beautiful park and the undesirable class of houses which occupy the valley below it, but few fine residences have recently been erected in the vicinity.

In the southeastern part of the city, and possibly including parts of Shandon, is a low, comparatively level tract drained by Rocky Branch, as yet practically undeveloped. A portion of this could readily, and at small cost, be converted into an interesting park which would provide areas immediately available for playgrounds. Directly to the south of this tract, and extending beyond the limits of the city boundary at Lower street, the ground rises rapidly into an undulating plateau, commanding extended views of the city and surrounding country, which must eventually become a favorite residential section, although in rather close proximity to the mill villages which lie to the west and northwest.

At one of the highest and most sightly points in the city, immediately to the east of the South Carolina College, is a notable property owned by the state and now used as private golf links in connection with the College. On it are several splendid groups of pines, and the views to the south and east are particularly fine.

To the west and southwest of this tract the land falls toward the Congaree River in a series of uneven undulations, until, between the course of the "old canal" and the river-bank itself, are many low stretches where the river overflows during high water. From many points in this vicinity near the river may be had perhaps the best distant views obtainable of the Capitol and its imposing dome.

From Gervais street northward along the narrow strip between the Columbia Canal and the Congaree River the banks become more precipitous and the views of the river itself more varied and beautiful.



Along Congaree River

1. Capitol from Congaree Park. 2. Along the canal. 3. The swift Congaree is filled with small islands. 4. The river from park. 5. Riverway, the canal. 6. The meadows in Congaree Park. 7. Crane creek, in Ridgewood Park.

The Congaree River is undoubtedly by far the most notable landscape feature of Columbia, and should receive first consideration in any general plans adopted. While its fall of thirty-six feet * in two miles makes the flow too swift for safe pleasure-boating, at least above the southern boundary of the city, its attractiveness from a scenic standpoint is greatly enhanced thereby.

To the north of the city, the valleys of Smith's Branch and Crane Creek, with their magnificent growths of timber and high surrounding hills, form features of inestimable value for the future of the city.

To the east of the city, the topography is not greatly varied and presents but few special features. A series of low ridges, covered with second-growth pines, oaks, hickories and other common forest trees, slope gently to Gill's Creek, about five miles distant from the Capitol. Dent's pond on the Camden road is a beautiful sheet of water, to be especially mentioned later.

A considerable forest of the long-leaf pine (*Pinus palustris*), apparently almost extinct in the region around Columbia, is noticeable, lying on Gill's Creek watershed to the north of Dent's pond.

South of Columbia and west of Bluff Road, lying along the east bank of the Congaree River, is a low, wide, swampy tract, many miles in extent. This reaches to a point below Kingsville, where the Congaree and Wateree Rivers unite, and is covered with a heavy growth of oaks, elms, maples, gums, poplars, ash and other trees, with an almost impenetrable undergrowth of shrubs and cane-brake.

To the west of Columbia and across the Congaree lies Lexington county, which should be considered in any general plan, at least so far as the banks of the river are concerned ; for any damage to this western shore would be immediately noticeable from the opposite side. Columbia was originally planned to be a city two miles square, with right-angled streets 100 feet wide, the four boundary streets and the two central streets, Senate and Assembly, each being 150 feet wide. If the founders had placed the Capitol at the intersection of these two last-named streets, this would have insured magnificent vistas of the building extending to the four city boundaries. It seems, however, that a higher point, one block to the east and north of this intersection, commanding a wider view was chosen, and consequently the Capitol was erected directly across Main street and at no intersection.

It will always be regretted that such an opportunity for giving

* *South Carolina Resources*, p. 699.

the Capitol a noble location was forever lost through zeal for geometrical accuracy; for, by merely conforming to the topography, and making Main the wide street, and placing the Capitol at the intersection of this and Senate street, could the ideal location have been secured.

The least that can now be done is to preserve and enhance in every possible way the only extended vistas of the Capitol, which are those to be had from North and South Main streets.

5. THE ACQUIREMENT OF LAND FOR PARK PURPOSES; METHODS OF PAYING THEREFOR AND FOR IMPROVEMENTS

As is well known, a majority of cities, when making any extensive municipal improvements, usually finance them by the issue of long-time bonds, securing their payment by means of a sinking fund. Thus future generations who reap the greatest benefit of such improvements very justly share a part of the cost. Issuing bonds for temporary improvements should be avoided.

Small parks, playgrounds, street extensions and other less costly undertakings may be provided for by special loans or by a small fraction per centage increase of tax levy.

The maintenance of a park system, as of streets, sewers, water-supply, etc., must be provided for in the annual tax levy, and, in the case of a Capital city, should have the benefit of an annual state appropriation.

The methods adopted in establishing Boston's city and metropolitan park systems have resulted so successfully that in considering parks for Columbia it might be well to examine the different acts and regulations governing the appointment and duties of these Commissions, as well as other laws relating to parks in Massachusetts.* The plan† recommended by the Metropolitan Park Commission and adopted by act of the Massachusetts Legislature, whereby the state lends its credit for a comprehensive park system, is especially worthy of consideration.

* See "Manual Relating to Public Parks in Massachusetts," prepared by direction of Metropolitan Park Commission, Boston, 1894.

† "That is, for the commonwealth to lend its credit, to a certain specified amount in the shape of a loan, for which reimbursement will be obtained from the various communities forming the metropolitan district. By this means, while the commonwealth is put to no expense in thus advancing its credit, the procedure is made an easy one for the communities. The payments being so distributed over a long term of years, an excessive taxation is not imposed and the burden therefore weighs but lightly upon any one community. Moreover, the credit of the commonwealth enables the money to be obtained at much lower rates than the communities themselves could hope to obtain advantage of, making a net saving of something like one per cent in interest. — *Mass. House No. 150, p. 14, Report of Metropolitan Park Commission.*

So far as we can find, the well-known principle of assessing betterments against abutting property owners for street and other public improvements has not been applied to any extent in Columbia. The city is therefore continually increasing the valuation of private property at public expense, and receives no adequate return therefor. A considerable legitimate source of revenue is thus being annually lost to the city.

Too much cannot be said in favor of a plan adopted by many European cities and which has actually been made possible in one American commonwealth* at least, of condemning more than the area actually required for improvement. In their report of December, 14, 1904, the New York City Improvement Commission urges its adoption as follows:

"Although, as above said, the expenditures necessarily required by any proper plan must be large, they can, in many instances, be greatly reduced, if the city had the power exercised in many European cities of *condemning more than the area actually required, so that the city might reap the benefit to be derived from the enhanced value of neighboring property, and, in the judgment of the Commission, steps should be taken to secure such changes in the constitution and legislative enactments as may be necessary for the purpose.* This method of taking more land than required, with the object of re-sale at an advance and of recouping part of the expense, has been applied in various large cities of Great Britain and the Continent where extensive alterations have been undertaken for securing architectural effects, remedying unsanitary conditions or improving the city generally, and it is questionable whether many of the improvements would have been otherwise accomplished."

By act of the Connecticut Legislature, the trustees of Keney Park, Hartford, were authorized to exercise this power, which they did with the most gratifying results.

It appears that the approximate area of Columbia† is 2,508 acres, the streets as originally laid out (including land and water) occupying 963 acres, or 38½ per cent of the total area. Streets that have been abandoned, or which, owing to excessive grades,

*"By recent act of the legislature (Ohio) cities are empowered to acquire land contiguous to public buildings and parks and to re-sell such land with restriction in the deed of sale as to the character of the buildings to be erected thereon, for the purpose of protecting such public buildings and parks."—*Report of the Grouping Plan Committee of the Chamber of Commerce of Cincinnati, September 27, 1904, page 6.*

† As laid out in 400-foot blocks and 100- and 150-foot streets, it is evident that an area originally intended to be exactly two miles square would not be fully occupied. Existing maps would indicate that this discrepancy was arranged for by platting it some hundred feet less than two miles square.

cannot be used, somewhat lessen this ratio. Even with this reduction, the streets occupy an excessive percentage of space as compared with the usual American city. It must be admitted that this is wasteful in the case of many of the streets; for example, in the greater part of both Senate and Assembly streets, where topographical and other conditions are not favorable for high development as a residential boulevard. The same may be said of Lower and Harden streets, unless these streets can be used as broad connecting links in a park system, or in some sections actually serve for certain park purposes.

Columbia's broad streets, however, if properly developed and cared for, will give a distinctive charm to the city, making it one large garden, and these streets are *already the property of the city, and require no outlay for purchase.*

For this reason, also, tracts that may be condemned for park purposes within the city limits will cost much less than otherwise, because the city now possesses title to a considerable area occupied by streets necessarily forming a large percentage of the land required.

6. COMPOSITION AND ADMINISTRATION OF IMPROVEMENT COMMISSIONS

Columbia has already provided for modern water and sewage systems, and it would have been fortunate indeed if the problems of streets and street trees, a park system and the general improvement of the city had been considered at the same time. It is obvious that all municipal improvements have vital relation to each other. The sewer, drainage and water systems should have their pipes laid where they will affect the permanent tree planting the least, and where they can be reached with the smallest possible damage to pavements. For these reasons also such conduits should be laid, where expedient, in the same trench. Especially should these matters be considered from the standpoint of meeting the needs of a much larger population, scattered over a far greater area than at present, and with a view to satisfying the requirements of a future park system.

Before determining, therefore, what a commission should be, it is necessary to clearly define its scope and the objects to be attained.

If a general improvement commission is contemplated, covering a broad field of activity, it will require possibly a fairly large

personnel, so that the experience and judgment of the members covering a wide range of effort in many lines may be available.

It seems best, however, to here consider mainly the chief requirements of a Board of Park Commissioners, its personnel and administration.

In providing for a metropolitan or city park commission, it should be composed of three or five citizens, and its head, at least, should be a broad man of acknowledged business and executive ability; the other members to be chosen preferably for their artistic and refined taste, so that the many questions relating to the beauty and embellishment of the parks, squares and parkways might have due consideration. It might be advisable to have a separate art commission appointed which would consider mainly the questions relating to the treatment of historic points of interest, the erection of fountains, statuary, memorials and other details so important to the esthetic development of a city, and which would work in harmony with the park commission.

But here authority would have to be clearly defined, to avoid clashing, and it is not certain that an art committee of the commission itself would not be more satisfactory if it contained proper material.

It would, furthermore, seem advantageous and altogether desirable to have at least one member of the commission a woman. Not only have women, as a rule, more time than men to consider esthetic problems, but they have usually a more sensitive and delicate natural appreciation of the highest ideals in art and nature, and are therefore peculiarly fitted to pass upon such questions as are continually brought before a commission of this character.

Express provision is made in the charter of at least one American city* that no person shall be ineligible as a member of the park board by reason of sex.

The New Orleans Park Commission has three women members on its board, and this has proved eminently satisfactory.

In the establishment, construction and management of a park system, sound business judgment and skill are so absolutely essential that without the fullest provision in the beginning for these requirements a commission is badly crippled and the results it aims at suffer accordingly.

Proper, but not undue economy, without allowing essentials to suffer, must be exercised always, and a thoughtful realization of the ultimate aims sought after must be kept constantly in view.

* Charter of the city of Portland, Oregon, Chapter IV, Article VII, Section 259.

Above all, a park commission should be absolutely non-political, and should hold a coördinate and not subordinate position in the city government. Unfortunately, the reasons are only too obvious, for we have but to examine the records of American political, and especially municipal, activity to learn that under our present system clean and efficient administration of large public improvements has, up to the present, been well-nigh impossible,—the taint of graft or favor, direct or indirect, too often permeating the very foundation of public effort.

Tie the hands of a commission by making it the subservient creature of an ever-changing and unstable city government, without power to act except through the will of such authority, and its best usefulness is killed at the outset.

All action by a board should be taken with the sole object in view of securing for the public the greatest good, without fear or favor to any individual.

It is quite customary for members of a park commission or board to serve without remuneration.

No serious improvements should be undertaken without the services and advice of competent experts, who should supply detailed plans to be executed under the immediate direction of a trained superintendent.

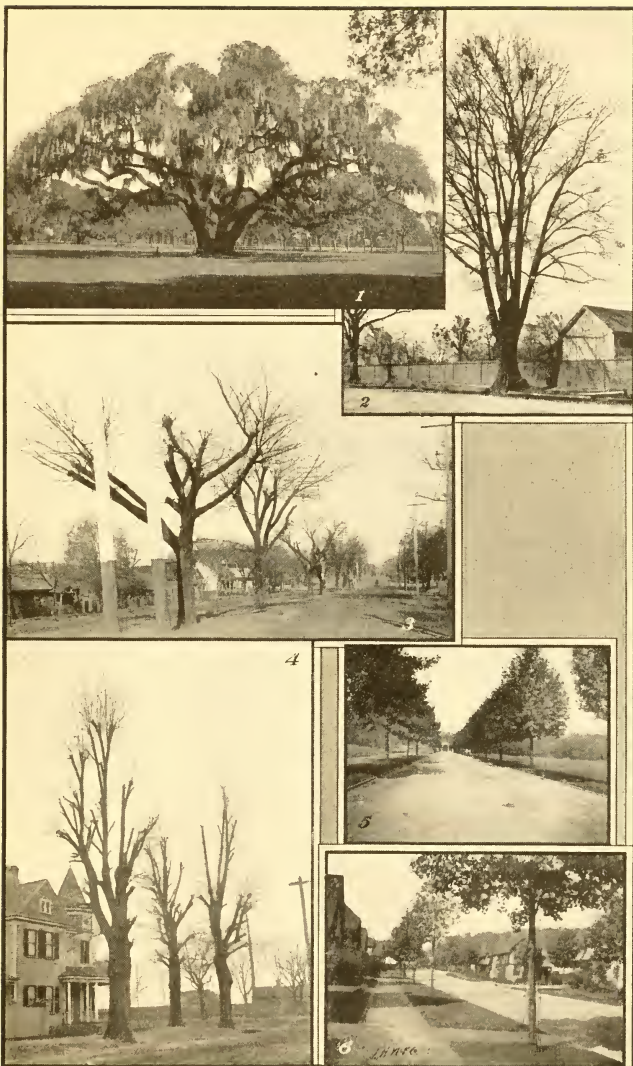
The members of a board should make themselves acquainted with the practices of park boards in other cities, and should, so far as possible, visit the best examples of parks and study the methods by which they are administered.

7. STREETS, AND STREET TREES

At first thought it would seem that the excessive street surface of Columbia, over one-third of its entire area, would make the proper paving and maintenance so burdensome as to be almost prohibitive. If so, this would necessitate either adequately constructing the principal streets and leaving the others to decay, or else poorly paving and maintaining all the streets,—either alternative being most undesirable.

By carefully considering, however, the probable traffic each street must sustain in the future, it is possible to reduce to a minimum the actual surface to be paved, treating the remaining area with grass or parked strips planted with shade trees, and sidewalk.

Thus, not only may the expense of construction and the cost



Columbia's Street Trees

1. Live oak in Audobon Park, New Orleans; plenty of room and food. 2. Oak on Divine street, not crowded. 3. Wires and poles vs. trees, Assembly street. 4. Tree butchery. 5. A properly planted avenue. 6. The right way to begin; a street in Biltmore, N. C. (See also page 71).

of properly caring for the streets be greatly decreased, but the beauty of the streets enhanced many fold.

Prof. Lafayette Higgins, in the *Municipal Journal and Engineer*, gives three important points to be considered in the proper treatment of street grades. First, safety to human life ; second, surface drainage ; third, the demands of traffic ; to which we would add proper consideration for landscape effect. He urges, further, that "in all cases where possible, no *grades should be established* until profiles are made for *all the streets* of the city or town." Columbia particularly, on account of its varied contours, is sadly in need of an accurate topographical map, not only of the land lying within the city limits, but covering most, if not all, of the entire township. Numerous bench marks should be fixed at convenient points.

Practically all permanent improvements must eventually be based on such a map ; and until it is available for free and constant use, and definite and final street and sidewalk grades established, all street improvements and the determination of the first-floor grades of business blocks will be unstable and unsatisfactory, and often require reconstruction or be always inconvenient if not actually dangerous.

The surface drainage problem cannot be properly solved until street and sidewalk intersections are permanently established.*

This question is daily becoming more urgent, not only on account of Columbia's growing population and the consequent increased use of its streets, but more particularly because of the open brick drains, which are in many places quite worn and require constant repairing if not entire reconstruction. The flow of surface water during rain-storms is rapid, and, at least at the lower elevations, of excessive volume. At a distance from the center of the city, where dirt gutters take the place of the brick drains, erosion is badly damaging the streets, which will require expensive filling at some future time.†

On many of the streets the trees occupy narrow strips along the

*" There are three distinct methods of establishing street grades, namely: 1. By center lines. 2. By curb lines. 3. By lot lines. The order given is also, I believe, the order of their development in engineering. Any such rule should be flexible. There can be but one grade for a sidewalk at a block corner, and this should be higher than any point of the curb running around such a block corner, so that the water will always drain from the building or sidewalk on that corner. I prefer the latter method for the larger city work, because of fewer resulting difficulties. I think, however, that the second method of establishing grades, the curb corner method, is probably the better method for small cities or towns."—PROFESSOR LAFAYETTE HIGGINS, in *Municipal Journal and Engineer*, Vol. XVIII, No. 5.

† West Gervais street below Huger furnishes a good example. A gully nearly fifteen feet deep now exists, and hundreds of yards of earth have been washed into the river below. It is a very dangerous place and is constantly growing worse.

sidewalks, which are incapable of furnishing suitable or sufficient food for their proper development, while immediately outside a wide, unimproved street area is going to waste, at best only partially used by wagons zigzagging back and forth in search of a dry spot.

To reach the sidewalks and the entrances to buildings across the open gutters, each abutter has a more or less dilapidated bridge. It is, perhaps, reasonable to say that this untidy, unsafe and unsightly system of street and curbing connections does more to impair the appearance of Columbia's streets than all other causes combined.

Together with the surface drainage question, of paramount importance are the sidewalk and street* problems. Their relative proportions of width must be determined in advance, the chief considerations being permanence, utility and beauty.

Some cities have established a definite ratio† between the width of the streets and the sidewalks, and in certain cases this plan might be safe and desirable; but the universally wide streets of Columbia, where their uses and the plans for development are likely to be greatly varied, and where existing rows of shade trees are at unequal distances from the property lines, make any fixed rule inadvisable.

In southern cities the sidewalks are usually much used as promenades, particularly where well shaded and in residential sections. They should, therefore, where feasible, be made of sufficient width on all streets to easily satisfy requirements. Certain proportions, however, are necessary to maintain a proper street perspective, and in no event should such matters be left to chance or snap judgment.

In the case of Columbia's wide streets, after determining what space will satisfactorily provide for the demands of wheeled traffic, all the remaining area possible should be devoted to strips of lawn with street trees, usually between the sidewalks and the curbing, and also where possible along the center of the streets.

The various kinds of pavements should be carefully considered, so that those best adapted for each particular street be chosen. It

* Well-paved streets are not only essential to the commercial development of a city, but for various reasons they are an indispensable necessity. Nothing has done more to assist in the up-building of Montgomery than the permanent improvement of her streets. Our highways of gravel, vitrified brick and granite blocks are a magnificent advertisement, reflecting, perhaps, more credit upon our citizens than any other form of public improvement.—*Annual Report, City of Montgomery, Ala., 1904, page 9.*

† In the recent extensive improvements of Cohoes, New York, the ratio of one to six was determined upon, and for the rather narrow streets of that city have proved generally satisfactory.

is well worth bearing in mind that white or glaring material is not only disagreeable and injurious to the sight when under foot, but that it reflects the heat of the sun's rays to such an extent as to materially increase the temperature.

Cities, especially those of the South, which must endure the longest period of the sun's direct radiation, have too long ignored this important matter, which affects, to such a marked degree, the comfort of its citizens. All mixed or concreted pavements, while being prepared, can readily and at little expense be given a gray or other agreeable color, where necessary.*

Although Columbia is unfortunate in its lack of diagonal avenues, it would seem unwise to arbitrarily cut such thoroughfares through the city, both on account of increasing the already undue percentage of street area and because of the excessive cost of such an undertaking. Therefore, to supply the need of numerous small areas for parks and sites for statuary, fountains and the like, we must turn to the broad, rectangular streets themselves.

We believe such features, which are so necessary to any city's interest, convenience and beauty, may be quite happily and successfully treated by using the centers of certain streets and their intersections with other streets for this purpose.

Monuments may be erected at such intersections and command splendid vistas from four directions, looking over smooth lawns and between rows of stately trees. Fountains may receive like treatment or be placed on park strips between blocks, vistas being thus obtained from two directions.

Some of the broadest parked areas might serve the use of "breathing spots," and be provided with seats and benches, especially where there was no park or public square in the vicinity; in fact, such use might often obviate the necessity of acquiring small public squares in certain portions of the city.

The lines of vision affording the most extended vistas — caused usually by the variations in grade — should be very carefully preserved, so that views of the most notable structures might not suffer detracton by the intrusion of less important details placed in the foreground. In other words, such use of the parked strips must not be overdone; good taste and sound judgment are of prime necessity in this as in all other matters pertaining to the beautifying of a city.

The entire care of and responsibility for such monuments and

* White throws off while black absorbs heat. For this reason very dark material would retain heat late in the evening after sun-down. A neutral tint would probably prove most satisfactory.

fountains, as well as for the parked strips along and through the centers of the streets and boulevards, and the trees and shrubs thereon, should be left to the park commission, and a liberal amount from the street fund placed at their disposal for maintenance, inasmuch as it is relieving the street department of just so much labor and expense, and greatly reducing the area for that department to keep in repair.

Moreover, this is the only way that such streets will be properly and uniformly cared for. On streets so treated and used as to be termed "boulevards," it might even be wisest to delegate the entire responsibility and care to the park department; but as a majority of Columbia's streets may and should have some treatment of the kind, this might prove too great a burden to the department, and therefore be inexpedient.

All trees, the property of the city and not in the care of the department, should be under the direct supervision and control of a complete tree warden.*

He should have a thorough knowledge of trees and their habits of growth and understand how to properly care for them, and his decisions should be final.

Elsewhere is given a detailed report of the street trees of Columbia, but a few remarks here on this subject may be desirable. The streets of Columbia were, at one time, shaded by a magnificent growth of oaks, apparently, for the most part, of the water, willow and laurel species. Today, fine specimens of these grand long-lived shade trees are so uncommon as to be almost landmarks, and the short-lived *Celtis* or hackberry, in all stages of decay, though occasionally to be seen in fine condition, is, for the most part, inadequately taking their place.

The disastrous burning of the city during the civil war destroyed a great part of the fine larger trees for which the city was widely and justly noted, and neglect and decay have almost completed the ruin.

It is manifestly short-sighted to plant the city's streets with trees which have little to commend them but their quick growth, and which can never attain to the size or grandeur of our oaks, elms, maples and other native shade trees.

There are perhaps a dozen or more species of native oaks alone, most of them to be found in or near Columbia, that are especially suitable for this purpose, besides many other varieties of trees easily available and of distinctive character as shade trees.

* This position might be held with good results by the park superintendent.

It is from such material, if from any, that Columbia must, in time, replace what was once the crowning glory of the city.

If properly planted and cared for, it is surprising what rapid growth this desirable class of street trees really makes, particularly in the mild climate of the South. But warm, moist conditions are also peculiarly favorable to decay, and it is of the first importance that injuries to trees be treated promptly and decay arrested.

Trees planted too closely are especially susceptible to the invasion of fungous diseases, and this trouble can be guarded against only by giving each tree abundant space, and letting in light and air. In planting street trees in northern cities, owing to rigorous climatic conditions, the authorities are compelled to use the most well-developed nursery-grown trees obtainable, with adequate root systems and symmetrical tops, and pay high prices for them. The growth is in every way fostered by careful planting and pruning, in order that the tree may have abundant food and room to properly develop under most favorable conditions. Even so, it ordinarily takes many years to bring the trees to a reasonable size that will shade the sidewalks and street.

In the cities of the South* the usual method employed is to select an oak, maple or hackberry tree in the thick shaded forest, dig it by cutting off all its roots to within a few inches of the butt, and, after trimming it by decapitating the entire branch system, plant what is left in the shape of a stunted pole or big stick, in a "hole" possibly a foot or two in diameter.

Strange enough, so prodigal is Nature, and so wizard-like the soil under the warm, sunny skies of the South, that even the first rains usually start latent buds into growth, new roots strike into the soil, and in a surprisingly short time what might be called a shade tree results. It is usually one-sided, however, with a thick cluster of over-vigorous shoots at the extreme top, somewhat resembling a crow's nest, and retains this appearance for years, until many limbs die from crowding, and the tree possibly, but rarely, regains its natural vigor and symmetrical shape. But in most cases, even where the tree has a pleasing appearance and good shape, its early wounds have never healed and an examination shows decayed limbs and a hollow trunk, giving the tree a short life at best,—the prey of passing storms and a menace to the safety of the passer-by. Such street trees can never be seriously considered as even reasonably satisfactory or permanent.

* Note tree-planting in Augusta, Georgia, on Broad street, in Birmingham, Alabama, on 19th and 20th streets, and many examples in Columbia.

With careful observance of the proper rules for tree planting, and with the right selection of trees, Columbia may soon completely transform its streets into permanent, well-shaded avenues.

8. OVERHEAD WIRES

The time when a maze of overhead wires for different purposes supported by a forest of bare poles rising from the sidewalks and curbsings was considered the sign of a city's prosperity is past, unless, indeed, it be in the small rustic village endeavoring to swell prematurely into a city by copying the worst features of the city's larger activities.

Fortunately for Columbia's trees, the broad streets have made it possible to separate the lines of poles from the rows of trees, at least in most cases. But while saving the trees from the usual disastrous injuries so common where trees and poles alternate in the same line along the street, it has by no means resulted in an improved appearance to the streets themselves; for the separate long lines of poles, with their weight of arms and wires, stand out in bold, unhappy relief, block after block, unbroken save where other streets crossing at right angles carry similar burdens with not so much as an insulator hidden by the protecting verdure of the trees.

Unquestionably, the only satisfactory way of disposing of these wires is to eventually place them underground. But it would hardly seem feasible or just to the companies operating the systems to compel them to do so without giving due notice and granting reasonable time.

The soft subsoil on which Columbia rests, and the absence of heavy frost at any time of the year, would seem to make possible the placing of underground conduits comparatively easy. And yet, to place Columbia's entire system of wires under ground, unless through a short series of years, would entail burdensome, and, we fear, unreasonable expense.

It should be undertaken on the principal business and residential streets first, and extended as rapidly as possible over the rest of the city at a specified mileage per annum. Permits for the erection of new lines overhead should not be granted, at least on streets.

Should an alley system be adopted, as suggested later, all poles and wires might be removed to it, thus practically ridding the streets of their presence at once, except where the wires crossed from block to block, and giving perhaps more time to finally place

them underground. This, we believe, would give the greatest satisfaction to all concerned, and open a way to dispose of a vexing problem of vital importance to the immediate and future welfare and appearance of the city.

9. COLUMBIA'S CITY BLOCKS

In addition to the wide streets, another unique feature of the existing city plan, differing radically from the plan adopted in most cities, is the system of very large square blocks, measuring 400 feet on each side.

In planning the Capitol City of Columbia* it seems that the founders had a totally different conception of its destiny and uses than is warranted in the light of successive events since 1865, which have wrought such complete social and industrial changes throughout the entire South.

This original plan contemplated not an industrial city of large population with solidly built-up business blocks, vast manufacturing plants and the objective point of trunk railroad lines; but rather a quiet, dignified center, around which the representatives of the people of the entire state of South Carolina might assemble to deliberate and enact laws, and a fitting place of residence for the state's executive department. It was to be primarily this and in consequence Columbia naturally became a leading social and educational center.

These large blocks, each containing nearly four acres, were designed for private ownership, estates occupying the entire area or the blocks being divided into two, four or eight parts, as requirements demanded. Thus abundant room was available not only for the landlord's residence of ample dimensions, but for a lawn with its well-ordered arrangement of trees, flowers and shrubbery. The rear was usually occupied by the kitchen, with its garden supplying fresh fruits and vegetables, the buildings in which the slaves and other servants were housed, and finally by the stables, well filled with fine horses and equipages, the whole often surrounded by a high brick wall ensuring privacy. Such an arrangement was almost ideal fifty years ago, and would be so today, no doubt, in a city concerned with government and social functions alone, and with a limited population† represented almost entirely

*Laid out and incorporated in 1787. The Legislature met for the first time in 1789.—*South Carolina Resources*, page 699.

† Columbia's population in 1820 was 4,000 and in 1880 only 10,036, an average gain in 60 years of but 100 souls per year.

by freeholders and their servants. The few fine old estates or gardens which remain today even partially intact, should be carefully preserved, for their historic interest and great landscape value.

However well the size and shape of the city blocks suited previous conditions, it is very apparent that as the city is now developing they are not only awkward and inconvenient, but inadequately meet the city's growing needs. On their future proper treatment will depend to a marked degree the health, cleanliness and appearance of the entire city; therefore, let us first carefully consider their disadvantages and then see if this unusual size and shape may not be utilized so as to be of real benefit.

At present many blocks in the business district on Main street are built up almost solidly on the four frontages, the depth of building around the square averaging probably less than 50 or 60 feet; but allowing even 75 feet for the average depth of buildings, this leaves an irregular area in the center of the block of 62,500 square feet, or considerably over one-third of the total area; and it is safe to assume that there are few, if any, blocks in the city that can show even one-half of their surface actually covered with buildings.

These areas eventually become totally inaccessible except by narrow private passageways, or through the buildings themselves. It is but natural to find that they are used as dumps, for the storage of boxes, barrels, and all sorts of refuse and waste, for decaying vegetable matter and garbage of every description,—a constant menace to the health of the city, an ever-increasing danger because of inadequate fire protection and a stench in the nostrils of Columbia's citizens. This condition also makes necessary the receiving of all supplies and the eventual disposal of ashes and garbage by way of the front doors, blocking up the sidewalks and impeding street traffic.

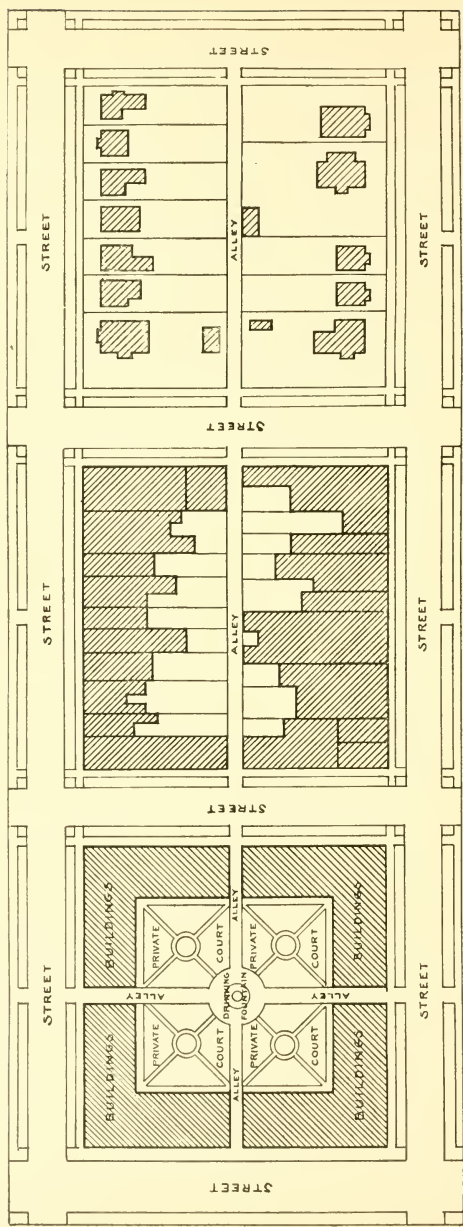
In the best residential parts of the city the need for relief is not so apparent, the centers of the blocks being occupied to an extent by gardens, though even here household supplies must be received and garbage disposed of by way of the street in front.

But a visit to the tenement districts discloses a condition, from a sanitary standpoint, worse, if anything, than in the business blocks. A trip through parts of the section bounded by Assembly, Plain, Gadsden and Pendleton streets, where tenements of every description cover blocks in every conceivable way and with an almost total lack of regard for sanitation, will convince the observer that not only are such unwieldy blocks a disadvantage if allowed

1. Business Block

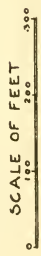
2. Business Block

3. Residence Block



Columbia's City Blocks

Possible arrangements providing alleys. The lack of such alleys is a constant source of danger from fire, and a menace to the health of the city. An adequate alley system covering the entire city is one of the most urgent needs in Columbia today.



to be built over indiscriminately, but that the city should endeavor to improve the general sanitary conditions in such localities as this without delay.

We fully believe, however, that if properly treated, the size and shape of Columbia's city blocks may be made one of the most fortunate and distinctive features of the city's plan. The first step recommended is the establishment of a complete system of alleys or very narrow streets through the centers of the blocks. A map should be prepared on a large scale showing the ownership of each lot and building in the city, with their assessed valuations, and the property affected by either a north and south or east and west system (generally a north and south system paralleling the principal streets would seem most advisable) or both. These considerations and many others including grades, and the probable lines giving greatest service, must determine a final alley plan. Obviously the alleys should be arranged in *continuous lines* where possible.

The title to such alleys should in all cases rest with the city. The alleys, if twenty to twenty-five feet wide, or even less, would not only serve the purpose above referred to, but could easily carry the wire systems of the city, and have all future sewer- and water-pipes laid in them, thus, to an extent, doing away with the damage to trees and pavements, and the interruption to traffic caused by the consequent tearing up of streets, which is a perpetual nuisance in any city.

This system of alleys will undoubtedly increase valuations, and should thus more than pay for its cost in time, outside the unusual benefits it will bestow upon the city. But, even if costly, early action seems imperative, and each day's delay but adds to the difficulty and expense of satisfactorily solving the problem.

With alleyways established, a rear entrance is effected to every lot in each block, both in the residence and business districts. A garden for flowers, fruits and vegetables may then occupy the rear of each lot and yet leave ample room to place the house a reasonable distance back from the street. Business blocks may be treated differently, with either a large central court used in common, possibly with a drinking-fountain, or with some formal-garden arrangement in the back yard of each quarter section of the block. Thus, not only would congestion of population be effectually checked, and every citizen in every part of the city enjoy abundant breathing space and daily contact with "nature outdoors," but the city would truly become a city of trees, gardens and fountains,—an idealized urban community.

10. A PARK SYSTEM; INCLUDING SQUARES AND PLAYGROUNDS,
HISTORIC, SCENIC AND OTHER RESERVATIONS
AND THEIR PROPER USES

“Even the costliest municipal edifices, well as they may serve their purposes, sooner or later fall into ruin. They begin to deteriorate at the very start, and, though they may remain as architectural monuments for one or two centuries, their duration is as naught in comparison with that of the public pleasure playground, whose beauty increases, whose value augments, as the years go on.”

Conceding the necessity and importance of a park system for Columbia, the considerations governing the proper planning of such a system may be summed up as follows :

1st. The amount of park area that will adequately satisfy the needs of the present population and anticipate, so far as possible, future growth.

2d. Cost ; the selection of property with a view to its availability, so that the cost of acquiring, improving and maintaining it properly may be within reasonable limits.

3d. Adaptability. The choice of locations that are best adapted to the various purposes for which the parks will be used, and, further, be conveniently accessible from the different parts of the city.

4th. The relative positions of the different units, with a view to connecting them, so far as practicable, by boulevards or parkways.

Taking up the questions in their order, it is not easy to say off-hand, or even by comparison with other cities, what percentage of a city's area should be properly applied to park purposes. Physical conditions and the density and character of population should undoubtedly have an important bearing in determining this question.

A mere comparison of the area devoted to park purposes in different cities as related to their population, while interesting, would give little tangible results if considered alone, although it seems certain that the *ratio* of park area adequate to the needs of a community *increases* with the growth of population. A majority of cities have confessedly far too little space devoted to park uses.

G. A. Parker, the leading authority in America on park statistics, says on this subject :

“One-twentieth of the city area should be reserved for parks and squares. A playground 300 feet square, at least, should be allowed to every square mile, and in densely populated districts, more than one.

"Four small squares, of at least one-half acre each, should be allowed to the mile, and at the rate of sixty to eighty* acres for every 1,000 acres the city may contain, should be separated out for one or more large scenic parks. In the most dense portions of some cities, the proportion of public grounds is over forty per cent. From what light I have, it would seem as if there should be *no less* than one acre of parks to 200 population."†

"Already eighteen cities have more than that."

If we use this ratio to illustrate, and accept Columbia's population as 35,000 within the corporate limits, this would give approximately 175 acres on a population basis, and 125 to 225 acres on an area basis, as the proper amount to set aside for park purposes.

If we estimate "greater" Columbia's population at 50,000 and the city limits as extended one mile to the north, east and south, or three times its present area, which would really be the only way these figures would apply to Columbia, if at all, we find 250 acres as the proper amount on a basis of population, and 375 to 675 acres on a basis of area, to be used for parks at the present time. Should Columbia's population increase largely or its ultimate limits be even further extended, the reasonable park area would increase proportionately.

In Part III of this report will be found tables, compiled from the statistical department of the United States Department of Commerce and Labor, January 1, 1903, giving the park statistics of twenty-one leading southern cities of 28,000 population and over, with similar statistics from a few other American cities. These tables, we believe, will prove of the greatest interest and are not without great value in the present discussion.

Columbia's wide streets will not take the place of a park system, the need of which the city is now feeling with increasing urgency. If a park system is to be had at all, suitably satisfying the requirements not only of the present but of the future, an adequate plan must now be made and the land secured without delay.

In considering the second question, that of cost, and securing the most available land that may be acquired, improved and maintained at reasonable expense, it is fortunate to find that property of low assessed valuation, and industrially most unproductive, is

* Ten acres in playgrounds and squares and 80 acres in large parks out of each thousand acres equals about one-eleventh of a city's total areas, or 9 per cent.

† Lynn, Mass., has one acre of parks to every 28 population; Los Angeles one acre to 30 population and many other cities a showing of one acre for less than 100 population. On the Los Angeles basis, Greater Columbia should now have over 1,500 acres in parks.

often the most useful and easily improved and maintained as parts of a park system. Here, also, it is hard to fix a ratio and to say definitely what amount a city should spend to construct and maintain its parks, reckoning upon a basis of population.

Mr. Parker's figures, made after careful investigation, are again worthy of consideration. On the basis of one acre of parks to each 200 population, he says, "If the income for parks per capita is a little over one cent a week, that is sixty cents per year, then such income for 200 people is \$120, which is a good average amount for maintaining an acre of parks. Then, also, if the cost of construction is \$200 per acre,—and it usually costs that to do thorough work,*—and the amount is raised by sale of bonds, the amount of bonds sold would be \$10 per capita, not a burdensome or unusual amount.

"The per capita cost for expenses of the city for all purposes is usually from \$25 to \$40; † therefore sixty cents per capita for parks is not excessive, and if this is considered the annual fee for the year's enjoyment, the investment is a safe one, for the land can always be sold for more than it costs.

"Besides, the city's parks, if properly located and developed and cared for, always increase the value of all the other property in the city, and the increased value which it creates increases the taxes sufficiently in the end to entirely pay for the first cost of the park and for its annual care. In large cities, parks lessen more often than increase the tax rate, and are, in fact, not only self-supporting, but are a source of property to the city. This has been demonstrated by several cities."

It is extremely important that the many different uses of parks be borne in mind continually, not only after construction, when the parks are in daily use, but in selecting locations. Many of our largest and finest American parks are planted almost entirely with the native trees, shrubs and plants collected in their immediate vicinity, thus saving great cost and securing the most permanent results and the best possible natural landscapes.‡

* For the South, with its climatic and other advantages, we consider these two last estimates excessive, and in this we are confirmed by Mr. Parker himself. It seems probable that the figures might be reduced one-third or even one-half, and still be safe.

† The average per capita cost in the twenty-one largest southern cities is but \$15.78 (1903).

‡ "Much of the waste land about our towns is already grown up with native trees and vines. I have been arguing for years that a park in its planting need not be costly. We need to use only the vegetation which is native to Iowa to make our town park as beautiful as any in the land, indeed more beautiful than it can be made in any other way. Our own vegetation, our oaks, our lindens, our hazels, our sumacs, our wild grapes, and creepers did once clothe these hills and banks with summer beauty, and autumn glory, and the plants will make all such locations splendid again if we but afford them a chance.

"Minneapolis did not ask for tree ferns and palm trees to make the parks the pride of the town and of the Mississippi Valley; she has used conditions as she found them, with results we see."—*The Present Status of Iowa Parks*, THOMAS H. MACBRIDE.

Playgrounds should not only be located where the ground is fairly level and suitable for games and gymnasium apparatus, but in the centers of populous districts and in such relation to each other that every child has ready access to one within at least a few blocks of his home. And so with athletic fields, squares, small parks, large scenic parks, historic or forest reservations, each should be selected with a view to its especial fitness to serve a special purpose, bearing in mind convenience and accessibility.

“Public grounds should meet the needs of all classes—from the baby who first sees the park in a baby carriage, and progresses to sand gardens, swings, ball grounds, parades, love-making, to the man of affairs, who seeks rest from over-work, and old age, who needs them for relief from the burdens of declining years. Each stage of life takes different things from the parks, and, therefore, they should be so constructed that all ages and conditions can find their needs met at one and the same time, without disturbing each other.”

Finally, the connecting links of a park system should be carefully considered and provided for in the original plans. They not only lend dignity and importance to the parks themselves, but supply continuous and charming drives between the parks, and make the parks accessible from all parts of the city by way of beautiful and worthy approaches. No city's parks can truly be called a “system” unless the principal ones at least are so connected.

11. SOUTHERN CONDITIONS

As a southern city, if Columbia would seek the ideal, it must be along lines that will truly express the best in southern traditions, accomplishments, and hopes and aims for the future. As it grows, it should, each day, reflect more of that which is most worthy in southern life and character.

Its dwellings, public buildings, parks, streets and exterior adornments are the exponents by which its culture, intelligence and enterprise will, in the future, be judged *by its own citizens* as well as by the outside world.

Right principles may and should be freely sought for and adopted, no matter what the source; but their application should be distinctively southern, and their adaptation such as to best meet the needs of the city's own people.

Undoubtedly, these needs will multiply and become more complex as the community grows in population and attainments; yet

we cannot but think that the highest ideals in public as in home life will always be marked by simplicity of expression and entire lack of the display that serves only for mere passing show.

Columbia, with its present magnificent opportunities and position of prominence as capital of the state, may well become the center for all that is highest and best in South Carolina civic art and life, and be the source to which the other cities and towns of the state and their citizens will come for guidance and inspiration.

Columbia can reach the highest development by taking advantage of its natural opportunities of location. As the city spreads, *it should anticipate growth*, and thus not only save great cost, but compel development along approved lines.

In his report to the New York Improvement Commission on Civic Art in northern Europe, Milo Roy Maltbie says, "The advantage of laying out the street plan in advance of population may also be illustrated by reference to a Brussels suburb. The city officials, noting the steady growth of the town, perceived that in a few years houses would be springing up in this new locality. Recalling the bad effects of haphazard expansion and the great expense of rearranging streets after a district is built up, they attacked the problem in advance, with most excellent results. A beautiful park was laid out with trees, fountains, statuary and floral displays. Diagonal streets with pleasing vistas were provided. Streets of generous width and well adapted to rapid transportation followed. Trees were planted along many of the less important streets as well as the boulevards. A new suburb was thus planned from its inception with comparatively little expense and no inconvenience to the public and according to plans *made in advance*."

The architecture of Columbia's public buildings and business blocks should be carefully considered, so that they may be consistent and harmonious, and a pleasing sky-line presented from all parts of the city. "Skyscrapers" have no place in any city outside of a metropolis, where land values are excessive and business and population congested to an extreme degree. High business blocks detract from a city's appearance, and not only damage the street perspective, but belittle the effect of monumental public buildings.

It hardly seems probable that Columbia's business needs will ever require buildings more than six stories in height, and, if this is so, they should be carefully restricted in the future. Southern cities especially should seek to avoid crowding and a congestion of population, and should secure the maximum amount of air and light possible. Tall buildings are not conducive to the best conditions.

The types of architecture should be confined to the best of those usually obtaining in warm latitudes.

So with the parks and gardens, they should be essentially southern parks and gardens, in their best expression, and not weak imitations of their northern prototypes, or even direct copies of the Italian or other gardens typical of warm countries. We believe, however, that development along the latter lines will more nearly meet the requirements of the South than strictly natural treatment most common even in city parks in England and America. The larger scenic parks should, of course, have their natural landscapes preserved and accentuated; but even here it is the southern landscape that is desirable, with its luxuriant growth and soft effects, and harsh treatment is nowhere permissible.

The southern park is a problem which still remains to be successfully worked out, but its bearing on the happiness and well being of the people of the South is so vital that its study cannot be undertaken too quickly or its solving accomplished too soon.

Undoubtedly, water should play an important part in the treatment, not only of the southern park but of the city itself. Wherever practicable and in good taste, fountains should be erected at street intersections and in other places in the city. They would enhance the beauty of the city many fold, cool and purify the atmosphere, and refresh the citizens through the long summer months.

With Columbia's unlimited water-supply, an opportunity presents itself to notably beautify the city and at reasonable cost, for most often a pool and simple jet is the most appropriate and serviceable fountain possible of construction. Where set fountains are erected, they should be in good taste and durable, and in no event should cheap iron structures be allowed.

It is often the good fortune of a city to be presented with memorial parks, fountains, statues, and occasionally buildings; and the donors, having the best interests of the city at heart should be, and usually are, quite willing to have plans submitted for approval by competent authority, so that incongruous structures, out of harmony with the surroundings, may be avoided.

In suitable locations public baths should be established to care for the health, comfort and happiness of the rapidly increasing laboring population of the city.

Columbia seems to be in urgent need of adequate hospital facilities.* For obvious reasons, a quiet, central location should be

* Since writing this, an important addition has been made to the city hospital, at its present location.

chosen, especially where the same buildings must serve general and emergency cases.

The block bounded by Plain, Henderson, Washington and Barnwell streets, or the block to the west occupied by the Columbia Female College, would be admirably adapted for the purpose, both of these blocks facing a proposed park, which would afford convalescents a pleasant outlook. A southern general hospital, it would seem, should be located with especial reference to avoiding tenement districts and localities where continual unpleasant odors exist.

As a well-planned and well-ordered residence has its different rooms, each set apart for a distinct use, so a well-planned city should have its manufacturing or industrial, its business and shopping, its public service, and the residential districts be kept distinct, the city protecting each district by carefully restricting the erection of buildings that would injure its legitimate use and appearance.

The typical mill village, usually on the outskirts of the modern manufacturing city of the South, is perhaps the most distressing and unpleasant feature of the landscape, as viewed from the car-window; and closer inspection lends little, if any, charm to the view, the small squatty, once white, double tenements stretching at right angles in rigid, disheartening rows, the back yards continuous with no provision for privacy, and often unsanitary in the extreme. Commercialism rarely recognizes any law other than that of dollars; but it is fortunate that many mill owners throughout the South now realize that a well-ordered, clean village, planned with winding shaded streets that do not violate the contour of every hill and valley, and with schools, playgrounds, gymnasiums and other blessings that make for the moral and physical well-being and happiness of its employees, means better labor, better products, larger out-put, and thereby greater profits; and many of them are now acting on this knowledge.

The people of Columbia should be vitally interested in these mill villages, which must eventually become, and are even now in all but name, an integral part of the city.

It is noticeable in many southern cities that curbing is set too shallow and public construction generally is not carried out with a view to the greatest permanency. This is the natural consequence of a mild climate where the ravages of frost do not have to be contended with. As a result, however, curbing in time becomes misplaced, gutters are broken, and uneven sidewalks and leaning walls are sure to result. The best in municipal construction is none too

good for the South, as well as for other sections of the country, and in the end it is cheapest.

We are not altogether in sympathy with the movement that would do away with all walls, fences or hedges around residences. On streets well built up, a uniform lawn area extending from the houses to the sidewalk undoubtedly adds greatly to the park-like effect of the street and to the appearance of the residences themselves; as may be seen in such notable examples as Delaware avenue, in Buffalo, and parts of Euclid avenue, in Cleveland, which may well be imitated with profit in many cases.

Yet the privacy of the home is paramount, and the rear of dwellings may with every propriety be protected from public gaze by plantings of shrubbery, hedges, vine-covered fences, or in any way that good taste and the wishes of the owner may dictate. Such screens may often start from the rear or front wall of the house or from a convenient point between.

The gardens of the South which satisfied our ancestors, and reflected their character and nobility, should not be replaced by the "new South." Maintain them not only as monuments to the past, but a blessing for the present and inspiration for the future!

Keep the old box hedges, the "Japonicas," crape myrtle, magnolias and jasmines, the vine-covered walls; set them in straight lines and in formal array; revive the dignified colonial architecture and the charming old-fashioned gardens, letting them still express that unbounded courtesy and hospitality which has made the South's people known and loved everywhere!

12. THE GENERAL IMPROVEMENT OF COLUMBIA

Should Columbia undertake, in the near future, extensive improvements of any character, it might be seriously hampered at the outset by an inadequate or restrictive city charter.

All progressive cities have found it necessary to provide new charters, or many amendments to the old, at certain intervals. In very recent years municipal government in America has been rapidly and fortunately improving, and far more thought and study is today given to a city's charter than formerly; for it is found that the fixed provisions of a charter have a most vital bearing on the government of a city and the welfare of its citizens,—more, perhaps, than any other single factor.

An analysis of the principles and the result of their application in the most successful city charters, both American and foreign,

are now in available form for reference;* and no city at the present time can afford not to keep up with modern municipal progress and avail itself of all the best that may be applicable to local conditions.

The unfortunate arrangement of the railroads which enter and completely encircle the city has already seriously hampered the best development of the streets and certain sections of the city, and stands in the way of much legitimate future development. Tracks occupy many streets and cross others at grade, while two freight and repair yards,† at least, on opposite sides of the city, begrime and disfigure what otherwise would be a continuation of the choicest residential sections.

It is, perhaps, needless to say that these unfortunate conditions might easily have been avoided with foresight, or had there been any influence exerted to properly safeguard the interests of the city. Many of the difficulties are now, no doubt, beyond remedy, except at unwarrantable cost. A lesson for the future may be wisely drawn, however, for the time has come when railroads may not, through corporate greed, arbitrarily and in total disregard of a city's best welfare, enter and despoil its beauty and become a constant and unnecessary menace to the lives and happiness of its citizens, unless, indeed, it be with the consent of the citizens themselves.

It would have been wise, and may even yet be feasible, for the Seaboard Air Line to enter the city by paralleling the Southern Railway's tracks, and to combine passenger stations, to the infinitely greater convenience and advantage of the city and of passengers, if not of the railroads themselves. This would seem possible, notwithstanding the great expense already incurred by the Seaboard Air Line in cutting and filling into the city by an apparently most unreasonable location, and in building its own passenger station.

At all events, the railroad problem in Columbia must sooner or later be more reasonably and logically solved than at present, and delay but adds to the complications and makes the best solution more difficult and expensive.

A commission of experts should be appointed by the Legislature on which the state, the city and the different railroads are suitably represented, to study and report upon a plan that would simplify

* See "Municipal Progress." Also the new charter of the city of Grand Rapids, Michigan, adopted this year (1905).

† Southern Railway repair shops and freight yards at Blanding and Laurel streets, and Seaboard Air Line yards occupying Sidney Park.

the trackage, eliminate grade crossings, and, if possible, arrange for all freight and passenger handling in the southwestern part of the city where already the chief manufacturing industries are located.

The many country roads entering Columbia should receive the earnest consideration of the city; it is evident that all that contributes to the improvement of the surrounding country and that aids in building up the outlying districts is, to a greater degree, of benefit to the business interests of the city. Furthermore, these roads, for the most part, pass through regions naturally beautiful, and when improved will become attractive and valuable pleasure drives. The city is fortunate in possessing granite of a fair grade for road-building purposes, and it could be put to no more profitable use than in macadamizing a certain mileage of these roads annually. But first the roads should be surveyed and good grades established.

The street railway lines on residential streets and boulevards should be located in the centers of the streets and their road-beds grassed. This is now a common practice in progressive cities, and takes away much of the always disagreeable appearance of the tracks. Ornamental trolley-poles may also be used with good effect. •

The distribution of all wires using the city's streets or alleys should be reduced to a system and be under the control of a capable administrative officer, with ample legal powers to protect the city's rights and interests.

The blocking of existing or future streets with public or private buildings should be carefully guarded against. Science Hall on Sumter street, the City Market on Assembly street and the State Hospital, the latter actually terminating no less than four existing and many more possible streets, are examples. The location of the State Hospital is especially unfortunate, and it is to be hoped that the suggested plan of removing it to a location suitably distant from the city may, in the near future, be realized.

South of the city, the Capitol City Mill stands directly in the way of a future extension of Main street. It would seem as if this had happened in utter perversity, for if there is any street which can be directly continued to the south with advantage, it is Main street.

Street signs and fixtures, commemorative and memorial tablets, the decoration of the fronts of business houses, the *sightly* as well as sanitary disposal of garbage, are all problems that bear directly

on a city's pleasing appearance in just so far as thought and good taste are used in considering them.

Columbia is no more free perhaps than are other cities from the curse of advertising signs and the bill-board. It is strange how the average American has come to accept these desecrations almost as a part of nature. In traveling, he finds the entire landscape from station to station apparently owned by these despoilers of nature—the bill-posters who thickly cover with daubs of paint and flaunting posters, all available buildings, fences, trees, rocks and other features. Throughout the city the same disregard is shown for the eternal fitness of things, and scarcely a view may be had in any direction or on any street that is not blotted by the persistent presence of the execrable bill-board. Much can be done to abate this growing and intolerable nuisance, by educating public taste and opinion, and by enacting and *enforcing* suitable city ordinances and state laws. The record of many municipalities proves that it is an evil that can be successfully fought in many ways.

As soon as practicable, the city should establish* a nursery that would supply the proper trees, well grown, for Columbia's streets, to replace those missing or that may need removal, and to plant streets where little or no planting now exists.

Columbia needs a modern cemetery, laid out on the "park" plan, and with provision made for perpetual care of lots and with other suitable restrictions. In no other way will a cemetery remain permanently beautiful and a fit resting-place for the dead.

The negro cemetery in its present condition is a disgrace to the city.

The city's water-works (land around pumping station, reservoirs, etc.) should be parked and planted, and will serve as places of rest and refreshment to people living in the vicinity. In many cities they are often an important part of the park system itself.

As the population of a commonwealth increases, and as its natural landscape features are encroached upon or even destroyed altogether, its citizens may be induced to take tardy action looking toward the permanent setting aside as state reservations, of notable mountains, fine tracts of virgin forest, waterfalls and other natural scenery.

If Columbia realizes its hopes of having the Congaree River made navigable from the southern limits of the city to the sea, an avenue will be opened by which it will be possible to operate pleasure craft for excursions down the river. Fringing the banks

* Preferably in charge of a park department or city tree warden.

of the river, at least as far as where its waters join the Wateree below Kingsville, is a magnificent growth of heavily timbered swamp forest almost tropical in luxuriance, and covering many thousands of acres. Undoubtedly, in time, this will disappear before the axe unless steps are taken for its protection, thus saving one of the finest natural features of the state from ruin and the wonderful beauty of the river's banks for the perpetual enjoyment of the people of Columbia and the state.

It may be said that these swamp jungles are inaccessible and, therefore, in no danger of destruction,—and this was said of the Adirondacks and the White Mountains at one time,—but if so, no harm can come if the state should make a permanent reservation of a tract along the river banks wide enough to forever keep the wild beauty of the river inviolate.

The people of Columbia should take peculiar interest in the establishment of reservations, which will protect the banks of the Congaree River, and should endeavor to bring about a careful investigation to determine the feasibility of such a plan, so that definite action by the state might be made possible.

So also with other state and national reservations that may have a bearing on the flow of the waters of the Congaree,* for as this river is one of the largest assets of the city, both commercially and esthetically, everything that may permanently affect it in any way should be a matter of deep concern to its citizens.

Investigation shows that real-estate valuations (as assessed) in Columbia are unstable and uneven; in fact, it appears that there is actually private property within the city limits on which no tax is being paid.

Most of the land is assessed for only one-third to one-half its value as held by the owners, and in these ways the city is undoubtedly losing a considerable annual income.

It is difficult under such conditions to give, even approximately, estimates of the cost of acquiring park properties, but should the city condemn certain tracts, and a jury fix the valuations as now assessed, then the cost of a park system to the city would be very moderate. If, however, it were proved that such property was assessed greatly under its true valuation, then a general readjustment would be in order, and with its increased income the city could as easily meet the same improvements at larger cost.

The only reasonable basis, therefore, on which we can give estimates is that of *assessed valuations*, and this we have done. The

* Special reference is made to the proposed National Appalachian Forest Reserve.

city itself can best determine how much these figures should be corrected.

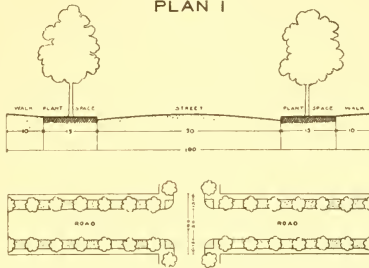
We would not give the impression that Columbia may be greatly improved, or such part of these suggestions as may seem good carried out without cost. But this is to a great extent a business proposition, and no business man objects to any cost provided returns are adequate. We believe in this instance that they will be, and abundantly so, even from a purely pecuniary standpoint; but in much greater measure in the increased health, happiness and comfort of every man, woman and child of Columbia.

Begin with the most necessary and fundamental improvements. But we would again urge that haphazard work will in the end be most expensive, and that all improvements should be undertaken with a view to an ultimate homogeneous whole, and only after the careful consideration of a definite and comprehensive plan.

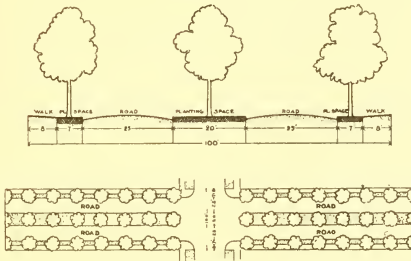
PART II. THE PLAN OUTLINED

1. SUGGESTIONS FOR THE IMPROVEMENT OF BOULEVARDS AND STREETS

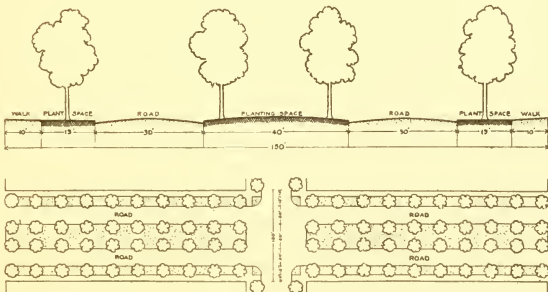
PLAN 1



PLAN 2



PLAN 3



TYPICAL ARRANGEMENT FOR CITY STREETS, COLUMBIA, S.C.
 WIDTHS OF ROADS, WALKS, AND PLANTING SPACES SHOULD BE VARIED TO SUIT TREE LINES, AND OTHER LOCAL CONDITIONS

2. THE PARK SYSTEM; APPROXIMATE COST

A description of the areas recommended for present or future park purposes, either within or very near the present city limits, with their connecting links. Mention is also made of certain streets which, on account of their width and location, are adapted to special park uses, thus to an extent saving the purchase of land by the city for playgrounds and squares.

It will be noted that the amount of land to be actually purchased for city parks is comparatively small when the results attained are considered ; for the city already possesses title to about one-third of these areas in streets. We believe no other city is so fortunate as Columbia in this respect. Again, practically all of this land is located where the valuation is low,—the result of its topography and unfitness for building and industrial purposes.

Altogether, it would seem as if a favored combination of circumstances has made it possible for Columbia to realize desirable conditions at a minimum outlay where other communities have paid excessive sums for similar benefits.

It is not to be expected that all, or even a major portion of these parks will be purchased or improved at once ; but a fixed park policy may well be adopted and at least small beginnings made ; particularly where delay will make ultimate acquirements much more expensive, or where conditions are distressing and the need urgent.

Reference is made to the maps accompanying this report, which show the location of all proposed parks, and their relative sizes.

Sidney Park and Parkway

At present, the Seaboard Air Line Railroad occupies what was originally known as Sidney Park. There are now no trees on this area worth mentioning. The Parkway extends down the small brook draining Sidney Park, to near its outlet at Gervais street, with sufficient land on either side for planting and park effects, and to make possible the construction of a driveway with good grades. A number of large pines are now standing near the railroad fills, and further down are a few more pines, many willows and a scattering growth of other trees and shrubs. Excepting in Sidney Park, which is graded down almost entirely to subsoils, it is safe to say that the soil is such as will grow all kinds of trees and shrubs after the usual necessary preparation.

In Sidney Park the large level graded area might be made into a splendid athletic field, with drives, walks and seats on the high





MAP OF THE CITY OF COLUMBIA, S.C.

SHOWING PROPOSED-PARK AREAS

WITHIN AND IMMEDIATELY OUTSIDE THE PRESENT CITY LIMITS

BASED UPON MAPS OF HAMPTON & MILLER
U.S. GEOLOGICAL SURVEY, ETC.

KELSEY & GUILD LANDSCAPE ARCHITECTS
BOSTON, MASS.

1905

UNLDED
FROM DISTRICT 1, 1900, THE DISTRICT OF COLUMBIA, D.C.

PAID BY THE
U.S. GEOLOGICAL SURVEY, ETC.
1905

SCALE OF FEET
0 100 200 300 400 500 600 700 800 900 1000

terraced ground above, from which the sports would be viewed as in a vast amphitheater. Open-air gymnasiums, children's playgrounds, flower beds and shrubbery would still leave room for adequate tree planting. Thus would advantage be taken of what is now a disfigurement to the city and a disheartening blot on the landscape. (See illustration on page 9).

The Parkway would connect Sidney Park with the proposed Congaree Park and Riverway lying along the Congaree River, and entrance to it might be had at suitable intersecting streets. It is probable that a Parkway drive would run under the high embankment of the two railroads crossing it. The improvement of this park and parkway would not only clean out a very undesirable tenement district, but would greatly enhance the values of surrounding property. At present it is the greatest park need of Columbia and would eventually transform that entire section of the city.

The total area of Sidney Park and Parkway is approximately sixty-three acres, of which thirteen acres in streets are now owned by the City.* The assessed valuation of Sidney Park is \$33,000; of Sidney Parkway, \$39,000.†

Congaree Park ‡

This takes in the low, rich, alluvial lands on the western boundary of the city lying along the eastern bank of the Congaree River and mostly between and including the site of the "old canal" and the river, and extends from Gervais street to Lower street at the southwest corner of the city limits.

There is a beautiful growth of trees, shrubs and vines fringing the banks of the river and the many low, swampy ravines paralleling or draining into the river, though the number of species is few.

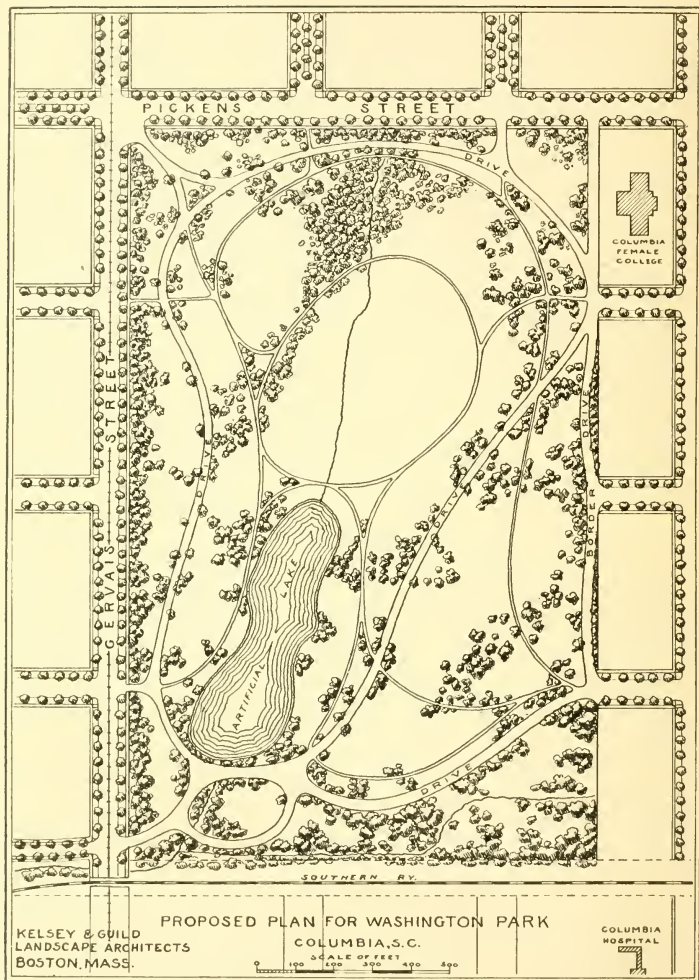
The greater part of this land may be expected to produce the finest class of trees—most of the oaks, the elms, willows, gums, magnolias, the cypress and loblolly pine and many others will thrive here—and shrubs of many kinds.

Fine views of the river and opposite shore may be had along its entire length. The overflow of the Congaree may in many places

* The title to five acres of streets in Sidney Park has unfortunately been transferred by the city to private owners and would, of course, have to be again acquired.

† The valuation for Sidney Park is for land alone; and does not include the buildings of the ice plant, or of the Seaboard Air Line Railroad. The valuation of Sidney Parkway is \$21,550 for land, and \$17,450 for buildings.

‡ For purposes of description we have given possibly appropriate names to the various proposed parks, which may be changed if desired by those in authority.



The Civic League, Columbia, S. C.

be governed and the ponds and ravines developed into spots of great beauty. Some fine stretches of meadow may also be preserved. This would undoubtedly make one of the most beautiful in a chain of parks near the populous districts.

This tract lies far below the general level, and would furnish many beautiful views to and from the higher parts of the city. It adjoins the proposed state reservation at Lower street (or below). At present it is practically undeveloped land and should be easily and cheaply acquired. Assessed valuation, \$35,000; total area, approximately 83 acres; street area, approximately 26 acres. (See illustration on page 22.)

Washington Park

The slopes around the basin which forms the body of this area are well drained, except toward the bottom, which is a swamp in many places impassable. On the higher ground and facing Gervais, Pickens and Plain streets are a number of good residences and other buildings, but, for the most part, this tract is covered with cheap negro tenements and is a constant menace to the health of the city. We have spoken particularly of this section in the first part of this report.

Next to Sidney Park, the securing and cleaning up of this area is perhaps the most urgent and important step to be taken in the immediate park improvement of the city.

It would add greatly to this park to include the area lying beyond its eastern boundary between Greggs street and Laurens street. Assessed valuation of land, \$44,550; buildings, \$55,770; total, \$100,320. Approximate total area, 45 acres; approximate street area, 9 acres.



Conditions in Washington Park Area. Dumps, Negro Tenements and Outbuildings

Forest Park

Just back of the cemeteries and adjoining the State Farm is a deep north hollow approximating primitive forest conditions.

On the steep slopes, which are more than 100 feet high near the mouth of this hollow and rapidly rise to the general plain of the surrounding country, there is a dominant growth of fine loblolly pine 1 to 2½ feet in diameter and 60 to 75 feet in height, and an underwood of red and white oaks, dogwood, cercis, celtis, red maple, pignut and white hickories and hornbeam. In the bottom of the hollow and along the small stream which flows through it are groups of fine tupelo black gum and sweet-gum, and grape and honeysuckle vines reach almost to the tops of the highest trees in a luxuriant tangle of growth.

From the high ridge on its northwest boundary splendid views of the Broad, Saluda and Congaree rivers may be had, with the forests and plantations of Lexington county across these rivers stretching away for miles in the distance.

There is no more charming or varied spot in the vicinity of Columbia, and it should be held forever as a wild forest park.

A suitable entrance to it is necessary, and possibly a drive and walks through it should be constructed, but otherwise it is in reality a finished park of nature's wonderful planting. The fact that it is of little, if any, value for commercial purposes has, no doubt, preserved this beauty spot inviolate for the enjoyment of the people of Columbia. Assessed valuation, \$300. The approximate area is 15 acres.

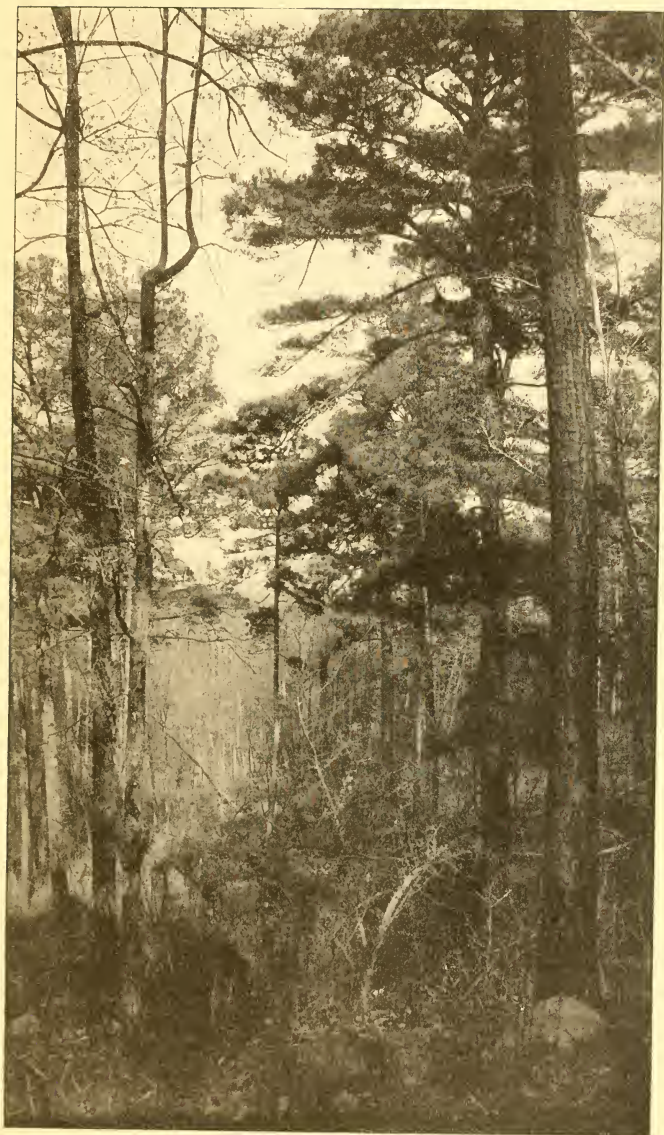
Riverway

This includes both banks of the canal from Gervais street to the dam at the head of the canal, and would connect Congaree Park and Sidney Parkway with Richland Park, nearly two miles above the city limits. It would make a magnificent winding drive some three miles long, furnishing constantly changing views of the beautiful swift-flowing Congaree and Broad Rivers, with their many islands on one hand, and the quieter flowing canal on the other.

The high river-banks are already protected with a beautiful growth of native trees and shrubs, and the banks of the canal would be greatly strengthened by a similar planting.

It will be easy to construct a roadway averaging 18 feet wide the entire distance, and a fairly good dirt road now exists.

There is nothing in the vicinity of Columbia that offers any-



In Forest Park

thing like the opportunities for a wonderful drive as this Riverway ; in fact, but *rarely does such an opportunity present itself to any city*. The cost would be comparatively small when one realizes the remarkable results possible of attainment by using this long, narrow strip of land as a driveway.

In any event, the city can never afford to lose its title to any portion of the banks of the Congaree and Broad rivers, within or near the city's limits.

A bridge should span the canal at or near Lumber street connecting with Elmwood avenue, another at some point above the State Farm, and still another at or near the canal dam.

The dam and canal gates are very interesting and would supply an attractive terminus to Riverway outside of Richland Park itself.

It is difficult to determine from existing maps even approximately the area of this strip of land, but it would seem to contain about thirty acres. A narrow strip fringing the eastern shore of the canal and protecting it would contain from 40 to 50 acres.

Richland Park

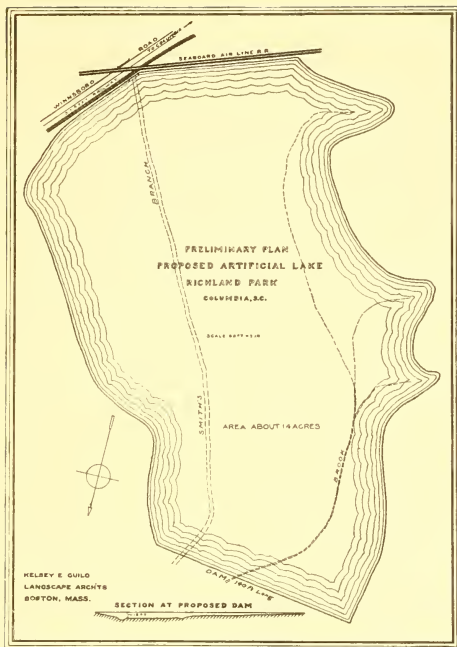
The strong tendency of Columbia's residential growth is at present to the northward, and building and street extension is rapidly progressing at least two miles beyond Elmwood avenue. Topography and other considerations also would seem to logically indicate that for a number of years, at least, the greatest building expansion will be on the area forming the watershed of Smith's Branch.

It is, therefore, of vital importance that new streets be planned in advance and on right principles. It would also seem most wise to set aside, before too late, a suitable tract of land for park uses large enough to treat in such a way that broad scenic and natural effects might be secured, as well as extended woodland drives—a treatment entirely impossible and undesirable in the smaller city park.

Such a park should be central, and placed so as to be reasonably accessible from every part of the city by way of drives and trolley-cars.

The valley of Smith's Branch seems to offer ideal conditions for such a park, and, when improved, the adjoining land would be much more desirable for residences.

The topography, forests and forest conditions of the valley of



Plan of proposed artificial lake, Richland Park. Area about 14 acres



Site of proposed artificial lake, Richland Park, North of Columbia, on trolley line to Ridgewood Park. 14 acres may be flooded at little expense

this stream were, to an extent, examined from the canal dam on the Broad River to points one-half mile east and northeast of Winnsboro Road. The lower portion of the stream's valley is narrow and contracted, the slopes steep and in places precipitous, where the stream cuts through the high hills to the base level of the river. These hills are steeper on the south side of the stream, and in many places rise abruptly from its banks; and this condition continues along its southern side to a point about two hundred yards above Winnsboro Road. These steep slopes are, for the most part, heavily wooded with fine pines, associated with gums, oaks and other trees, and to the westward with groves of hardwoods, oak, hickory and beech, alternating with thickets of younger pine, while kalmia or mountain laurel, dogwood and red-bud form a beautiful growth and skirt many of the rocky banks of the stream. North of the stream the topography is not so rigid. A gradual slope rises from the banks of the stream, eroded as it recedes into picturesque hollows and hills. While this side is largely cleared, there are some nice bits of woodland below the quarry site.

At and below Winnsboro Road the marshy flood plain of the stream forms a natural lake site. A thick grove of hardwood would fringe the southern banks of the lake, clothing a steep hill which rises abruptly. Native black willows already grow along what would be the northern shore of the lake. A 12-foot dam would flood an area of about 14 acres, making a splendid sheet of water.

Above the road the stream divides and its basin widens, the topography becoming undulating. It is largely under cultivation, but dotted at intervals with even aged groves of pure pine, with scant underwoods of dogwood, sourwood, post-oak, holly and gums. The largest park area lies below Winnsboro Road.

The greatest expense of this park would be the original cost of the construction and maintenance of drives and paths, and properly caring for and improving the woodlands.

If Columbia grows, as may be reasonably expected, the value of Richland Park to the city would be hard to estimate. Its assessed valuation is only \$7,200; approximate total area, 450 acres.

Hyatt Park

At present this is an abandoned street railway park of considerable natural beauty. The woodland in Hyatt Park is limited to a small, but fine, grove of loblolly pine, which occupies the gentle slopes on either side of a small stream. This grove is prac-

tically pure pine so far as the dominant trees are concerned, whose crowns rise 90 to 110 feet, on stems clear and free of limbs for 40 to 60 feet. Beneath the pines is a thin underwood in which holly, sweet and black gums, post-oak and cyrilla are conspicuous. The hollies are particularly fine.

Care should be taken with this grove, as well as other pine groves which are much frequented, to preserve the leaf litter or mold formed of the pine needles, and neither have it raked up nor burned, and an undergrowth should be encouraged. The pines are sensitive to naked floors, and, as they become old, require for their best growth a moderately dense ground cover.

It is hoped that this will be kept as a part of a system adjoining Richland Park and a connecting link by way of the street railway boulevard to Ridgewood Park, also at present the property of the street railway. Approximate area, 15 acres.

Granby Athletic Field

Between Assembly Street and Bluff Road is a level tract of ample size for making a fine athletic field and playgrounds. This would be very near the center of a large manufacturing district and supply an urgent need for good baseball and football grounds, tennis courts, etc., for the large number of employees in this section of Columbia. Estimated assessed valuation, \$1,800; approximate area, 18 acres.*

Rocky Branch Parkway

From Granby Athletic Field to Rocky Branch Park a strip of land should be reserved along Rocky Branch of sufficient width to protect this small stream and for a pleasure driveway. It would be an interesting link connecting the parks, as well as is also necessary from a sanitary standpoint and to enable those from the Granby district to reach Rocky Branch Park by a direct route. Assessed valuation of land not estimated. Approximate total area, 15 acres; approximate street area, 6 acres.

Rocky Branch Park

Again, land of little building value and at present unimproved is chosen which will make a beautiful and interesting park in the southeastern part of the city. Through it runs the Rocky Branch, and there are a few good trees already growing along what would

* This area we have since enlarged to include the stream, the old water mill, and the splendid forest. It is a very beautiful spot.

be its northern and western boundary near the foot of the hill at Green and Pickens streets. There is a fine grove of pines, oaks and other trees above and west of the Southern Railway fill from College street to Gervais, and from the higher land splendid views of Shandon and the country beyond may be had.

The cuts and fills of the Southern Railway in or paralleling Laurens street from Gervais to Wheat street would be within the area, and passengers coming into or passing through the city by this route would get a glimpse of the city "at its best."

Valley Park, in Shandon, lies to the east and would really constitute a part of Rocky Branch Park, as would the section of Harden street between Gervais and Wheat or Rice streets. Assessed valuation of land, \$7,500 (our estimate, and probably high). Approximate total area, 75 acres ; approximate street area, 23 acres.

By tunneling under the high railroad fill at or near Senate street, direct connection would be had with Washington Park.

Capitol Park

The two blocks comprising this park are very near the geographical center of the city, and make a valuable beginning of a park system.

There are some fine specimens of trees on this area, but, for the most part, they are crowded and starved, and are in need of prompt, efficient attention. The celtis (hackberry) can never make an adequate shade tree for use in this park, at least as a predominating species.

This park should be properly laid out and cared for by the state, and only in this way will it ever become a fitting place for the chief building of the state. (See suggested plans on pages 70 and 71).

Capitol Park will always be one of the most invaluable breathing spots in the city.

Senate, Assembly, Lower and Harden Streets, and Elmwood Avenue

Columbia having an excessive street area, it would seem advisable to utilize such public space to the best advantage.

The above streets, all of which are 150 feet wide, might not only serve as connecting links in the park system (laid out on Plan III), but certain parts of them might also be used for children's local playgrounds, outdoor gymnasias, and other like pur-

poses. This would, to an extent, save the expense of securing other land, for there is no more important or necessary feature of a city's first improvement than small, open breathing spaces and playgrounds, easily accessible to every citizen.

Conditions make Lower street of special value in this respect. Parts of certain other streets, such as Blanding and Pickens, should be considered as connecting links in the park system, and perhaps receive more early attention than others not so used.

Other Squares and Playgrounds

These should be established where, in the future, it may be found necessary, but it is probable that the park system suggested would supply nearly every section of the city, together with the broad streets utilized as suggested.

As the city grows, the southwest section may need a few playgrounds set aside,—for instance, in the vicinity of the Southern Oil Mills, on Gadsden street.

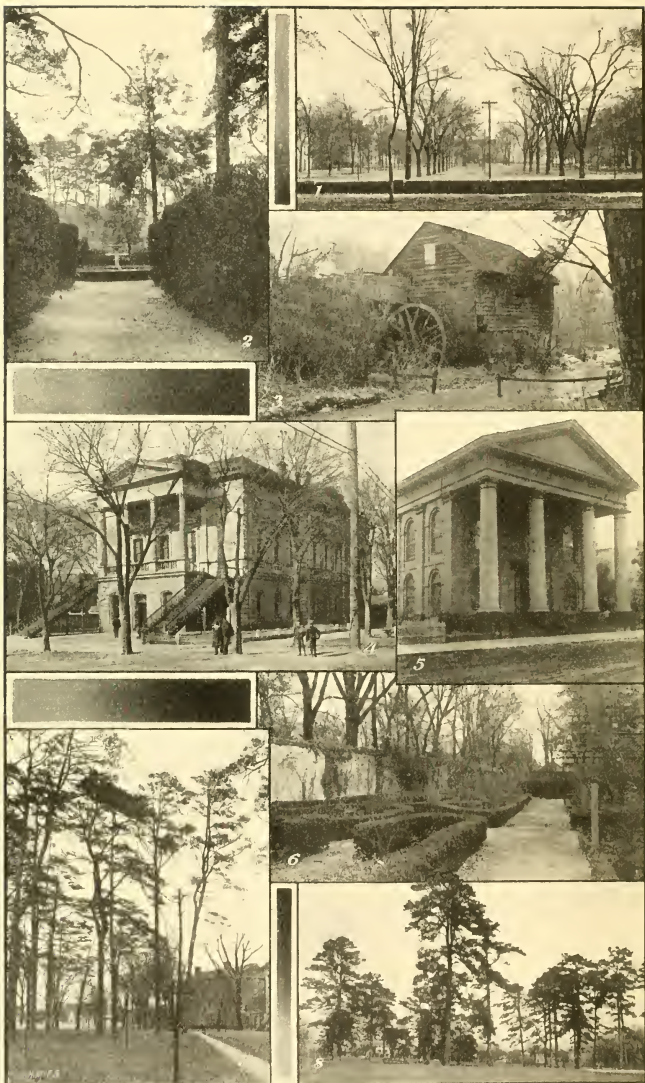
We would recommend the setting aside of the open lot at the corner of Lumber and Barnwell streets for a playground, possibly for colored children, and the splendid square on which the public school building is located should forever be kept for use as a school and playground.

3. HISTORIC, SCENIC AND OTHER RESERVATIONS

Ridgewood Park

This is the property of the Columbia Street Railway Company. It is a scenic tract of exceptional beauty, and it may not be out of place to give a short description of it here.

The growth is in places similar to that in Forest Park, approximating virgin forest conditions, being formed of either old forest trees or very large second growth and containing many uncommon deciduous species which are not usually found in tracts of woodland so near large towns. The forest on the alluvials along Crane Creek is formed of large virgin loblolly pine, white oak and basket-oak, associated with sweet-gum, black gum, water-gum and probably tupelo, with some red maple, box elder, celtis and swamp Spanish oak (*Quercus pagodaefolia*). On the steep slopes short-leaf pine associated with scarlet, Spanish, black and post-oaks, dogwood and an occasional southern maple make up the characteristic forest.



Historic and Scenic Places Worthy of Preservation

1. Campus South Carolina College. 2. Old Gen. Hampton Place (College for Women) Fountain and Wonderful Box Hedges. 3. Old Mill (Granby Athletic Park). 4. Old Court House. 5. First Baptist Church, where first Congress of Secession was held. 6. A Corner of the Formal Garden, College for Women. 7. Theological Seminary. 8. Pines on the Golf Links.

The bluffs on the south bank of Crane Creek are high and very precipitous, with deep parallel ravines, and here again may be seen fine masses of mountain laurel (*Kalmia latifolia*) and many azaleas.

Crane Creek offers splendid opportunities for safe canoeing, while a lake of considerable size might be made at reasonable expense by constructing a dam where the stream breaks through the main ridge. The high surrounding bluffs would give charming views of the lake and the pleasure-boating on it.

There are great possibilities in this tract for the future of Columbia. At present it seems to be in wise hands, and the owners are preserving the natural beauties and developing the park for the enjoyment of the patrons of the street railway.

Dents' Pond

Lying directly on the Camden Road and about five miles from Columbia is Dents' Pond, an artificial lake covering perhaps a thousand acres. It is the only considerable body of water within easy reach of the city, and was evidently made long ago, for the shores have the fine growth and occasional sandy beaches of a natural lake.

The shore-line is extremely interesting and beautiful, fine headlands covered with verdure jutting into the lake with many shadowed bays and inlets between, while a few picturesque islands dot the lake, adding interest and variety.

East of the pond the steep slope is heavily wooded with tall and straight loblolly pines, which begin almost at the dam and extend two-thirds of its length. This is a beautiful grove, free from undergrowth and brush and already much used by campers. The trees themselves are in excellent condition.

At the north end of the pond are several feeding streams, bordered by swamps and reed thickets, several being of considerable width. The forests of the swamps are formed of gum, water-oaks, red maple and loblolly pine. The uplands between these feeding streams are very sandy and have considerable forests of long-leaf pine and scrub-oak. The pine has been boxed for turpentine and partly abandoned, much having been cut for lumber. The remaining trees are usually decrepit and in anything but a thrifty condition. A hopeful feature, however, is the great number of young long-leaf pines which are coming up in the scrub oak wherever the conditions are favorable and where they are not killed by the re-

peated fires which evidently frequently pass through these forests. This area needs careful forest management.

The western shore of the pond slopes gently to the uplands and is fringed with a skirt of timber of variable width. The predominating growth is loblolly pine, associated with short-leaf pine, but the gums, oaks and maples are much in evidence.

Columbia should own this pond and the fine surrounding forests, preserving for its citizens a feature of the greatest interest and value, and one which will surely be more and more appreciated, especially should a trolley-line make it still more accessible. Approximate area to reserve, 700 acres, including 300 acres of water.

Millwood

The old homestead of the Hampton family, lying four miles out on the Garner's Ferry Road, is a spot of great natural beauty and worthy of preservation for all future generations, not for this alone, but for the rich historic associations that cluster around it. The fine old vine-clad columns of the mansion still stand, silent and imposing sentinels of the past, guarding the sacred memories of the noble lives lived within its walls.

A few splendid specimens of rare exotic trees and shrubs, all that is now left of what must have been at one time a fine garden, are here, and there are many large oaks and other trees immediately around the house site.

Between this site and the creek is a large tract of very fine long-leaf pine, with a rather open underwood of post-oak, blackjack, forked-leaf blackjack and Spanish oaks. None of the pines have been boxed for turpentine. Very few have apparently ever been cut, and it represents a primitive long-leaf pine forest which would be difficult to duplicate within the same distance of almost any other southern city, and in a few years it will be impossible to duplicate it anywhere. Great effort should certainly be made to preserve this body of timber. Numerous long-leaf pine seedlings are coming up in this grove, and, by protecting them, the forest could be renewed and perpetuated for all time.

The other growth around the house site is largely second-growth loblolly and short-leaf pine, thirty-five to forty years old, and represents about the average condition of such growth.

Should circumstances ever place this old estate in jeopardy, there are undoubtedly many willing hands to reach out and save it from those who would but despoil and desecrate.

The road to Millwood from Columbia is fairly good, with interesting scenery.

Approximate area, 125 acres.

State Reservations

We have previously mentioned the advisability of the state securing and reserving certain areas along the Congaree, Broad and Saluda Rivers to protect the bottoms during overflows and to preserve the natural beauty of the banks. A portion of these areas may be seen by referring to the maps accompanying this report.

There may also be other lands in the vicinity of Columbia that are worthy of receiving state care and protection.

It might even be within the province of the state to secure and preserve forever such a spot as Millwood, thus insuring its permanent safety and care.

The State Farm, to the north of the city and on the banks of the Broad River, offers remarkably extended views from its terraced hills of river and landscape. Some time in the future it may have an important bearing on Columbia's park system.

An Outer System of Parks and Reservations

Should Columbia become a city of large size, as seems quite within the bounds of reason, it could easily secure an outer park system by connecting various reservations described above.

Beginning at the proposed state reservation where Gill's Creek joins the waters of the Congaree River south of the city, a drive can be constructed, following up Gill's Creek to Dents' Pond and passing by way of a small pond east of Bluff Road and Millwood. From Dents' Pond, connection with Ridgewood Park, and through it with Riverway, might be had by following up the stream which enters Dents' Pond from the northwest, and, crossing over the ridge at or near the intersection of the Southern and Seaboard Air Line Railroads, continue down a branch of Crane Creek.

The total length of such a parkway, from the Congaree River to Ridgewood Park, would be about fourteen miles, or from Bluff Road to Ridgewood, about eleven and one-half miles.

The road-bed would necessarily require solid ground most of the way, and therefore might need a location in many places some little distance from the streams.

However, corduroy road is fairly easy to construct, and a drive-

way, partly through swamps, would be very interesting and beautiful, especially in winter.

A notable feature of such a parkway is that it would intersect and connect no less than nine principal highways entering Columbia at an average distance from the present city limits of three and one-half miles.

This may be a dream of the future, but it is at least a worthy one, and dreams are sometimes realized.

RECAPITULATION OF APPROXIMATE PARK AREAS AND ASSESSED VALUATIONS

PARKS	Total area (acres)	Area of Streets (acres)	VALUATION		
			LAND	BUILDINGS	TOTAL
Washington Park	45	9	\$44,550	\$55,770	(c) \$100,320
Sidney Park	26	6	33,000	(f) . . .	(f) 33,000
Sidney Parkway	37	12	21,550	17,450	39,000
Congaree Park	83	26	35,000	. .	35,000
Granby Athletic Field . .	18	. .	1,800	. .	1,800
Rocky Branch Park . . .	75	23	(d) 7,500	. . .	7,500
Rocky Branch Parkway .	15	6	(h) . .	(h) . .	(h) . . .
Valley Park	20	. .	(g) . .	(g) . .	(g) . . .
Forest Park	15	. .	300	. .	300
Riverway (averaging 100 feet wide)	30	. .	(e) . .	. .	(e) . . .
Richland Park	450	. .	7,200	. . .	7,200
Capitol Park and Mall	(a) 32	11	(h) . .	(h) . .	(h) . . .
Dents' Pond Reservation	(b) 700	. .	(h) . .	(h) . .	(h) . . .
Millwood	125	. .	(h) . .	(h) . .	(h) . . .
Approximate totals	(i) 811	93	150,900	73,220	224,120

(a) Of which seven acres are now owned by the State.

(b) Of which 300 acres are in water.

(c) This high valuation is caused by the excessive number of tenements occupying Washington Park. This class of property is highly profitable as a private investment, but seriously depreciates general real estate values of all adjoining property.

(d) Our estimate, and probably considerably over assessed valuation.

(e) We assume that the title rests in the city.

(f) This does not include valuation of Ice Plant or buildings of the Seaboard Air Line R. R.

(g) Now laid out as a private park.

(h) Not estimated.

(i) Excepting Dents' Pond Reservation, Millwood and Valley Parks. Deducting 450 acres, the area of Richland Park, leaves 361 acres of strictly city park acreage.

4. THE STREET TREES OF COLUMBIA

A Survey of their Present Condition, with Improvement and Planting Suggestions; also recommendations regarding the Plan of each Street

In making this survey, it was not attempted to note each individual tree in the city; typical sections of each street were selected and amply serve the purposes of this report. Definite suggestions



Columbia's Street Trees

1. First year. 2. Second year. 3. Third year. 4. Young old age. 5. How a street tree should look. 6. Another type, plenty of room and light. (See also page 29.)

for the paving and parking of each street are given in due order. We believe it will be found very satisfactory to use the trees we have recommended for each given street, but latitude may be used. The use of short-lived trees should be discouraged.

The three greatest evils which affect the streets trees are, *first*, the closeness of the planting, which necessitates either frequent and heavy pollarding or the injury to the crowns by crowding; *second*, pollarding (even where the crowns are not crowded), severe and injudicious pruning, and neglect of the resultant wounds, causing hundreds of decayed limbs which are followed by hollow trunks; *third*, neglect of cultivation and lack of food. Many of the trees, especially young elms and celtis planted in the middle of the streets, are in a very poor condition from starvation. Great numbers of the old oaks may be rejuvenated by pruning, *if done properly*.

The city of Columbia may be divided into two portions, one lying north of Green street and east of Gadsden, embracing the best-built portion of the city, and containing many rows of fine trees, especially oaks and elms; and the other lying between these streets and the south and western limits of the city, largely a low area sloping to Rocky Branch and the river, containing the depots, stations and railroad tracks, and in which the shade trees are entirely wanting or in poor condition or have been only recently planted. There is scarcely a street in this last district in which there are not many blocks entirely without trees.

Much can be done to immediately improve the condition of existing trees by careful pruning and judicious thinning and by feeding them.

As a rule, each street should be planted as indicated with a single species, unless, in some instances perhaps, where the center of a street is parked.

Oaks, elms and other large-growing street trees do best when planted fifty or sixty feet apart and never less than forty feet apart in the row.

N. B.—Plans I, II, III, indicate the plan of street recommended (see "Suggestions for The Improvement of Boulevards and Streets" page 53)—that is, the manner of parking and paving. Except when indicated otherwise, all hundred-foot streets are understood to be Plan I.

Where a species of tree is recommended for a street, it is not expected that fine existing specimens of any species will be destroyed. In replanting a street already occupied by poor or unde-

sirable trees, great judgment must be used in locating the young permanent trees at proper distances apart and in leaving enough existing trees to temporarily provide a reasonable amount of shade ; the latter to be removed when the permanent trees have reached a sufficient size.

Points of the compass are abbreviated, as N.=North.

"*Blanks*" refer to trees being absent in what would otherwise be a continuous line of trees. "*Crowded*" refers to trees being too close. There is no middle planting unless it be specifically mentioned. "*Tree line*" indicates the present distance of street trees from the property lines.

Inch measurement for trees refers to diameter. Six-inch trees are usually under 15 feet in height ; 12-inch trees are usually under 25 feet in height ; 14-inch trees are usually under 35 feet in height. ("*Oak*" refers to existing water- and willow-oaks, which are sometimes associated with laurel. Where one kind is planted unmixed, it is so stated. "*Elm*" refers to small-leaved, associated with white elms.)

Elmwood Avenue

Except at the extreme western portion below Huger street, Elmwood avenue for more than a mile is nearly level, and presents one of the best opportunities of parking of any street in the city. W. of Huger it has never been graded, and is without sidewalks or houses along this portion.

The Negro, Catholic and Elmwood Cemeteries lie to the N. of Elmwood and W. of Wayne, and at present lack suitable entrances.

While there is a great deal more celtis on Elmwood than any other tree, there are no fine rows of it. On both sides of the street there are several rows of young elms, and one row of old elms in good condition. There are a few oaks. The west end is practically unplanted below Gadsden. The trees in the middle of the avenue are all in an extremely poor condition, and should be heavily manured unless others are planted in their places. In spite of the generally poor condition of the trees, the street presents several fine arched vistas. Several blocks could be entirely replanted without in any way breaking these vistas, provided occasional trees were left along the center.

Trees crowded or blanks. Some fine 16-inch celtis on S. side near Main and large oaks and ginkgo S. side between Gates and Assembly should be saved. The tree line varies from 10 to 15 feet. Curbs few, wooden.

PLANT ELMS (small-leaved), retaining the best specimens of other existing trees.

PLAN III.

Lumber Street

One of the finest streets. W. of Gadsden little improved, but two fine sycamores, and poor celtis are noticeable. E. of Gadsden starved celtis on S. and center; fine rows of celtis on N. side, crowded. W. of Assembly the sides and center are planted with fine oaks, forming arches. E. of Assembly there are good rows of trees on both sides and a poor row in the center. Nearing Pickens there are three rows forming arched vistas, largely 14-inch celtis, with few elms. E. of Pickens two rows, 14-inch celtis and elms. The tree lines of Lumber, usually 10 and 12 feet, here widen on N. side to 15 feet, bordered by deep ditch. From Barnwell to Harden, poor condition, blanks.

PLANT OAKS.

PLAN II.

Richland Street

W. of Gadsden S. side 16-inch celtis, starved and badly pruned; N. side fine 18-inch to 24-inch water-oaks. One of the finest and largest rows of trees in the city. E. of Gadsden, S. side, a few large oaks and celtis in poor condition; many blanks. N. side, row of 14-inch evergreen cherry, alternating with 8-inch celtis; poor condition. E. and W. of Assembly, no center planting; side planting irregular, mostly celtis. W. of Pickens, S. side, row of large oaks, fair condition; center, large old oaks, poor condition; N. side, oaks and 12-inch celtis. E. of Pickens, N. and S. sides and center, old oaks; some celtis N. side. Oaks need much trimming. Street in bad condition. Tree line 9 to 12 feet, occasionally 14 feet.

PLANT WATER-OAKS.

PLAN II.

Laurel Street

W. of Gadsden, slopes steeply down to river; on S. side 14-inch celtis in good condition; center, 8-inch starved celtis; N. side, a few winged elms, heavily trimmed, roots badly washed and exposed, mixed with 14-inch celtis. E. of Gadsden, crowded and irregular elms and celtis, in center of N. and S. sides; two fine water-oaks in middle of driveway. W. of Assembly, much narrowed by railroad yards to Lincoln street. Irregular and broken

rows of celtis and elms. W. of Pickens, S. side, a fine row of 20-inch oaks, some blanks, needing attention ; center, mixed elms and fair oaks ; N. side, 12-inch elms in good condition. From Laurens to Hardin, Laurel is blank ; between Laurens and Pickens, broken rows of large oaks, many blanks ; also celtis and elms. The oaks need vigorous pruning, and all need manuring.

PLANT WILLOW-OAKS.

PLAN II.

Blanding Street

General condition very poor. W. of Gadsden, mostly poor 18-inch celtis, many closely pollarded ; center, a row of recently planted elms and celtis, 6 to 8 inches. E. of Gadsden, street narrows, and no trees to Gates street. W. of Assembly, narrow, broken rows of poor trees where the street circles the railroad yards. E. of Assembly, poor celtis or blanks till near Pickens, where occur poor or broken rows of oaks. E. of Pickens, poor oaks, celtis and blanks to railroad fill.

PLANT LAUREL-OAKS.

PLAN II.

Taylor Street

W. of Gadsden, is unimproved, blank ; at Gadsden, a deep gully and rapidly rising grade to Assembly ; at Lincoln, Seaboard Air Line trestle crosses. From Lincoln to Gates the street narrows to 25 feet, with few irregular celtis. From Gates, through to the Camden and Two Notch Roads, in Waverly, celtis predominates — some good specimens, but usually starved and in poor condition ; many blanks. From Henderson to Gregg are some good oaks, a row of paper mulberries on S. side, crowded. N. side, near Pickens, some notable crape myrtles, which is not a suitable tree for shade purposes, particularly on sides of streets. Near Gregg, the tree line narrows to 6 feet.

PLANT RED OAK.

PLAN II.—Main to Harden street.

PLAN I.—Main to Gist street.

Plain Street

W. of Gadsden, steep and gullies ; a portion built up with poor-class houses ; few celtis and elm ; one fine 18-inch oak ; mostly blank. E. of Gadsden to Laurel, is very mixed and uneven planting of oaks, elms, and celtis varying in size, and many recently

planted, and blanks. A number of fine trees exist, but mostly in poor condition.

PLANT ELMS.

PLAN II.—E. of Assembly.

PLAN I.—W. of Assembly.

Washington Street

W. of Gadsden, little improvement; gullies, railroad embankments and poor tenements. Practically blank. E. of Gadsden, mostly broken, irregular rows of celtis and oaks in varying sizes, and mostly poor condition; center row, badly damaged by poles and wires; near Pickens, some large, heavy-crowned oaks, mixed with celtis. This street terminates at Pickens.

PLANT WILLOW-OAKS.

PLAN II.—E. of Gates.

PLAN I.—W. of Gates.

Lady Street

W. of Gadsden, a fairly steep slope toward river; walks in medium condition; irregularly planted with celtis, both sides. E. of Gadsden, mostly celtis, many blanks, and generally in poor condition; near Pickens, one large tulip tree and 18-inch oaks, and celtis on N. side. Street terminates at Pickens.

PLANT LAUREL-OAKS.

PLAN II.—E. of Wayne.

PLAN I.—W. of Wayne.

Gervais Street

W. of Gadsden, is scantily planted as far as Pulaski on both sides; many blanks below Pulaski. E. of Gadsden, again celtis, with few oaks and elms in fair condition, nearing Assembly; this continues to Pickens, with many large oaks, and celtis large and small; few blanks. E. of Pickens, some fine 18-inch oaks, but toward eastern end blanks, and the few trees in poor condition. This is one of the most important streets in the city.

PLANT LAUREL-OAKS.

PLAN I.

Senate Street

This was originally intended to be a leading avenue. Below Gates the railroads so cut it off that it is of little value at present. E. of Gates, and to Sumter, is in decay, with little or no curbing,

and 18-inch curb on N. side ; low walks on S. side ; 12 to 16 feet to tree line. The existing small celtis are badly crowded by the trees growing around the edge of the capitol grounds, and are poor and starved. E. of Sumter to Barnwell are some fine oaks, 2 to 3 feet in diameter, crowded, and many poor oaks, and some blanks, replanted with Carolina poplars. Unfortunately, the tree lines vary widely on this street, from 9 to 17 feet. All sizes of elms, oaks and celtis may be seen on this street, irregularly spaced, and many with roots exposed. E. of Pickens is a row of old, 16-inch American elms, in fair condition. This avenue may be made exceptionally beautiful.

PLANT ELM or OAK along sides and ginkgo in center ; or all elms or all oaks.

PLAN III.—E. of Lincoln. Special treatment along capitol grounds. (See group plan.)

Pendleton Street

W. of Assembly, some good celtis, large and small in fair condition, and many blanks. E. of Assembly is found a variety of elms, oaks and celtis, a number large and in fair condition, but for the most part needing careful pruning. The planting is very irregular, though the tree lines are rather even, averaging 12 and 13 feet, and in many cases badly crowded. E. of Pickens are some nice rows of young elms. This street also has great possibilities.

PLANT ELMS.

PLAN II.

College Street

This street is specially considered in the "group plan," which see.

PLANT, PROBABLY, ELM.

Green Street

W. of Assembly, blank and is in bad shape. E. of Assembly, there are some good rows of oaks, needing pruning ; some celtis and many blanks ; between Sumter and Bull are some very fine oaks, and 6-inch elms, both white and small leaf, 30 feet apart ; few blanks, and on the whole in good condition. At Pickens this street crosses the golf links, and is not laid off. E. of Pickens it is mostly level, and when laid off and planted will make a fine street, commanding extended views.

PLANT ELM or SUGAR MAPLE.

PLAN II.

Divine, Blossom, Wheat, Rice, Tobacco and Indigo Streets

All of these streets are but little improved, and with scattering planting. Some trees have been planted by individuals in front of their houses. Usually a single species of tree should be selected for each street and planted uniformly as the streets are improved and graded. See "List of Trees Suitable for Street Planting."

Robert, Pinckney, Gist, Williams, Pulaski and Wayne Streets

These streets, lying in the western part of the city and running N. and S., are, for the most part, unimproved, or in poor condition, and with little systematic planting.

The remarks on the streets on the S. part of the city apply here.

Gadsden Street

This street presents a great variety of street trees in all conditions; several water-oaks, near Lady, need trimming; many of the celtis along this street have been pollarded, and are in bad condition; between Washington and Plain are some water and Spanish oaks needing pruning, and near Lumber a few old mulberries, which should be removed at once. A number of evergreen cherry trees are noticeable between Richland and Lumber.

PLANT SPANISH OAK.

PLAN II. (Generally.)

Lincoln Street

S. of Taylor, the Seaboard Air Line Railway has a deep cut, with stone retaining walls down the center, one side of the street at N. end being entirely blocked by railroad fill and trestle. Further along, and in fact to Lower street, the railroad tracks or trestles occupy much of the street. The trees are mostly celtis in poor condition. Near Assembly, on W. side, is a group of fine, large but badly trimmed oaks; E. side, small 10-inch celtis.

PLANT GINKGO.

PLAN I.

Gates Street

S. of Elmwood, a magnificent row of water-oaks on both sides of street; N. of Taylor terminates in a steep embankment at Seaboard Air Line yards. S. of Taylor, celtis and blanks.

PLANT WATER-OAKS.

PLAN II.

Assembly Street

S. of Elmwood to Laurel, fine rows of elms, 12 to 24 inches, forming complete arches; an unfortunate planting of celtis and blanks. From Laurel to Taylor the grades are excessive, but can be greatly improved by cutting at Laurel, and filling at Blanding; irregular rows of elms, celtis, mostly small sizes, and blanks, continuing to Senate. Between Senate and Pendleton is a nice row of oaks and celtis, but crowded on W. side; center, 8-inch celtis, needing special care; E. side, a good row of celtis and elms. The rest of the street has broken rows of celtis and elms, many of the former spoiled by pollarding. This should eventually be made a boulevard, and probably planted to elms, or possibly oaks, S. of Laurel street.

PLAN III.

Main Street

S. of Elmwood to Laurel, planted more or less, mostly with celtis. S. of Laurel, blank.

PLANT GINKGO from Elmwood to Taylor.

PLAN I.

South of Senate is recommended special treatment (See Group Plan).

Sumter Street

S. of Elmwood. Here again we find the ubiquitous celtis, in all sizes and conditions, planted along almost the entire length of the street to Gervais, occasionally relieved by a few poor old oaks and blanks. Between Gervais and Senate are some 14- to 18-inch elms, in fair condition, with blanks at S. end. The celtis on W. side are badly crowded by those on the Capitol grounds, and this condition should be immediately relieved. S. of Senate are fine oaks, celtis, and a few elms; crowded.

PLANT LAUREL-OAKS.

PLAN II.

South Carolina College Campus

On Sumter, head of College street. The driveway on S. side is 23 feet wide. On the S. side of driveway and within 4 feet of the gutter is a row of 18-inch oaks, in poor condition, trunks old and decayed, tops badly broken, and in need of pruning; 20 to 30 feet apart. On N. side, 20 feet from driveway, 14-inch celtis and elms; 20 to 30 feet apart; driveway on N. side of campus is 23 feet wide; 5

feet from gutter on N. side is a row of 18-inch oaks, many decrepit and badly in need of thinning and trimming, mixed with 6-inch elms, 14 to 30 feet apart; crowded. On S. side of the N. driveway, and 25 feet from the driveway, is a row of 14-inch elms in fair condition; 30 feet apart. Through the middle of the campus E. and W. are two rows of large elms in fair condition; rows, 60 feet apart, and are a continuation of the rows on College street, E. of Main. The trees are spaced 35 feet. The elms here referred to are partly white and partly winged, or small leaf. The white elms are moribund. All of the trees on the campus are starved, and need much attention.

Marion Street

S. of Elmwood, on W. side, tree line varies from 9 to 12 feet; 16-inch celtis and oaks, many blanks; E. side, same trees with few elms; condition good; tree line 9 feet. Toward Taylor, and through to Pendleton, are elms, oaks and many celtis; as a rule, the trees entirely too close and greatly needing pruning. S. of Green, has not been considered, being unimproved. The South Carolina College athletic field is located here.

PLANT RED OAK.

PLAN II.

Bull Street

S. of Elmwood, large oaks and elms, many old and decrepit; near Blanding, some fine large oaks and celtis, with few crape myrtle near Taylor, but, on the whole street the trees vary greatly in size and badly spaced, 10 to 30 feet, and many in very poor condition. Near Green, on E. side, is a row of 6-inch elms; on W. side, near Pendleton, a broken row of large oaks and celtis nearer Green, flanked by 7-foot brick wall of South Carolina College from Green to Pendleton. S. of Green is opened and graded, but no planting and not built up. N. of Elmwood, W. side, blank; E. side, tree line 16 feet; 8-inch elms for nearly one-fourth mile, and on Asylum Road flanked by 10-foot wall of State Hospital.

PLANT SPANISH OAK on sides, MAGNOLIA in center.

PLAN II.

Pickens Street

S. of Lumber to Blanding, some fine oaks mixed with poor specimens and celtis, needing pruning. S. of Blanding, on W. side a magnificent row of oaks, 2 feet in diameter, and 60 feet high. The trees are too close, however, 35 feet, the tops being crowded.

It shows the possibilities of successful oak planting. On E. side irregular oaks, but not so fine as on W. There is a fine vista from Plain, looking N. to the arch of the State Hospital. Oak planting may well be gradually extended throughout the S. part of this street. Some blanks. S. of Taylor, many fine oaks, and a mixture of elms and celtis; some of the larger oaks rotten, and most of the trees on the street needing attention and pruning; crowded. Near Washington is a specimen of paulownia. S. of Pendleton there is an offset in Pickens street, its E. line S. of this street being continuous with its W. line N. of Pendleton; blank; the street is not open below Green.

PLANT OAKS.

PLAN II.

Henderson Street

S. of Laurel, many fine rows of oaks, some in very bad condition, which should be removed; also celtis, crape myrtle, and blanks.

PLANT OAKS, N. of Plain; SYCAMORE, S. of Gervais.

PLAN II.

Barnwell Street

There are oaks, elms, celtis (and a large paulownia) indiscriminately planted, with many poor trees and many blanks; some elms with roots badly exposed.

PLANT SUGAR MAPLE, Lumber to Plain, on sides; EVERGREEN CHERRY in center. WHITE MAPLE, Gervais to Green; EVERGREEN CHERRY in center.

Gregg Street

N. of Taylor is a negro section; no curbing and uneven tree line; celtis, and many blanks. S. of Taylor, irregular-sized celtis, many pollarded; excessive blanks. S. of Gervais, deep cut; little, if any, planting.

PLANT SYCAMORE (Plane), on sides; CATALPA in center.

PLAN II.

Laurens Street

The best part of Laurens street is occupied by Southern Railway fill, and has no driveway or trees. Should be used as parkway. (See Plans.)

Harden Street

S. of Divine, is little improved. Divine to College, a row of 6-inch elms at what is really the W. end of "Valley Park"; E. side, blank. From College to Gervais, blank, and street in bad condition. Gervais to Plain, grading being done; no walks; few houses, and very few poor celtis. Between Plain and Taylor, six middle-sized celtis on W. side; near center, and on E. side, are some fine hickories (*Hickoria tomentosa*), from 45 to 60 feet high. In the estate at the S. W. corner of Taylor and Harden are two notable specimens of oaks (*Quercus falcata*) 3 to 4 feet in diameter, several fine hickories, and a number of rare and interesting oaks, (*Quercus margaretta*, *Quercus catesbæi*, and *Quercus obtusifolia*); these should be carefully preserved. Plain to Elmwood. Here the avenue has a good average grade, and contains a number of fine oaks, including a remarkable group of four specimens, 3 to 4 feet in diameter, and a magnificent old yellow poplar (*Liriodendron tulipifera*) 4 feet in diameter. In improving this avenue, these grand specimen trees should be carefully preserved from harm. A few celtis have been planted, but mostly blank.

PLANT some single species of large-growing oak on sides possibly live-oak, with hickories in center. In any event, large-growing and long-lived trees.

PLAN III.

Lower Street

Is mostly unimproved, and should eventually be treated in connection with a park system under Plan III.

PART III. TABLES. I. City Park Statistics

STATISTICS OF THE TWENTY-FIVE LEADING CITIES OF THE COUNTRY IN RELATION TO PARKS

From Statistics of the Department of Commerce and Labor, June 1, 1903

Compiled by Kelsey & Guild

The number to the left of the name of each city indicates its rank in population with other cities in the United States

NO.	CITY	POPULA- TION	TOTAL AREA (in acres)	AREA OF PARKS				TOTAL	Per Cent Park Area	Inhab- itants to one Acres of Parks	VALUATION OF PARKS		EXPENSE FOR PUBLIC RECREA- TION		Total Annual Expen- diture	Total Municipal Debt	Total	Per Capita
				Owned by City		Not Owned by City					Total	Per Capita	Total	Per Capita				
				Inside City	Out- side City	Inside City	Out- side City											
1.	New York . . .	3,716,139	209,218	6,863	. . .	. . .	. . .	6,863	3	541	\$285,141,700	\$76.73	\$1,514,644	\$0.41	\$42.23	\$532,977,235	\$3,144,852	\$1.38
2.	Chicago . . .	1,873,886	114,932	2,463	. . .	. . .	. . .	2,463	2	761	32,868,784	17.54	1,046,478	56	17.95	\$30,604,764	1,027,701	\$5.55
3.	Philadelphia . . .	1,367,716	81,833	4,137	. . .	. . .	. . .	4,137	5	331	30,868,000	22.57	561,308	41	26.87	\$58,361,152	2,450,823	\$1.79
4.	St. Louis . . .	612,279	39,277	2,133	. . .	65	. . .	2,198	6	280	10,729,850	17.52	160,280	26	26.88	\$23,902,474	1,241,135	\$2.03
5.	Boston . . .	594,618	27,532	2,419	. . .	493	. . .	2,912	11	204	50,017,375	84.12	547,427	92	45.19	\$88,152,106	1,876,469	\$3.16
6.	Baltimore . . .	531,313	19,363	1,496	1,860	48	. . .	3,434	18	155	2,578,527	4.83	312,971	59	15.89	\$39,964,453	638,204	\$1.64
7.	Cleveland . . .	414,950	22,186	800	723	. . .	. . .	1,523	7	272	19,622,479	47.29	120,286	29	23.87	\$22,366,134	682,234	\$1.74
8.	Buffalo . . .	381,463	26,895	966	143	. . .	. . .	1,049	4	364	6,289,739	16.30	155,727	41	19.07	\$19,500,767	647,753	\$1.73
9.	San Francisco . . .	355,919	29,760	1,225	. . .	10	. . .	1,235	4	586	17,300,000	48.60	354,129	99	19.26	\$576,845	627,051	\$2.00
10.	San Francisco . . .	313,025	13,954	534	. . .	. . .	. . .	1,253	4	586	17,300,000	48.60	354,129	99	19.26	\$576,845	627,051	\$2.00
11.	Milwaukee . . .	299,619	18,473	1,113	140	. . .	. . .	1,253	4	586	17,300,000	48.60	354,129	99	19.26	\$576,845	627,051	\$2.00
12.	Detroit . . .	293,217	38,408	3,644	. . .	33	. . .	3,644	10	80	8,894,594	28.73	173,358	56	19.38	\$7,254,856	627,051	\$2.86
13.	Washington . . .	214,112	31,622	1,781	. . .	. . .	. . .	1,781	6	120	4,676,357	21.84	80,668	37	19.80	\$13,816,222	265,597	\$3.41
14.	Minneapolis . . .	186,772	10,384	570	. . .	. . .	. . .	570	6	328	1,698,916	9.84	48,339	26	22.20	\$9,257,442	574,556	\$2.68
15.	Providence . . .	166,772	16,269	696	1,354	. . .	. . .	2,050	13	84	4,010,000	23.17	72,406	42	19.20	\$18,337,420	561,935	\$3.01
16.	Kansas City . . .	173,664	33,954	1,172	. . .	33	. . .	988	6	143	2,600,000	11.62	89,206	52	19.96	\$7,292,982	238,444	\$3.32
17.	St. Paul . . .	172,038	32,954	1,172	. . .	. . .	. . .	988	6	147	1,162,250	7.89	32,730	22	16.53	\$9,779,112	387,830	\$2.25
18.	Toledo . . .	145,991	15,924	577	410	1	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
19.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
20.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
21.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
22.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
23.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
24.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
25.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
26.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
27.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
28.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
29.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
30.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
31.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
32.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
33.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
34.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
35.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
36.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
37.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
38.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
39.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
40.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
41.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
42.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
43.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
44.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
45.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
46.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
47.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
48.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
49.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
50.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
51.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
52.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
53.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
54.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
55.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
56.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
57.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
58.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
59.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
60.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
61.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51
62.	Los Angeles . . .	116,420	27,399	723	3,015	. . .	. . .	3,738	14	31	1,754,250	15.07	92,012	80	29.49	\$7,708,522	366,695	\$2.51

I. City Park Statistics

STATISTICS OF THE TWENTY-FIVE LARGEST SOUTHERN CITIES IN RELATION TO PARKS

From Statistics of the Department of Commerce and Labor, June 1, 1903

Compiled by Kelsey & Guild

The number to the left of the name of each city indicates its rank in population with other cities in the United States

NO.	CITY	POPULA- TION	TOTAL AREA (in acres)	AREA OF PARKS				TOTAL	Per Park Area	VALUATION OF PARKS		EXPENSES FOR PUBLIC RECREA- TION		Total Annual Expendi- ture Per Capita	Total Municipal Debt	EXPENDITURE FOR MAINTEN- ANCE OF STREETS AND SANITATION	
				Owned by City		Not Owned by City				Total	Per Capita	Total	Per Capita			Total	Per Capita
				Inside City	Out- side City	Inside City	Out- side City										
14.	New Orleans	300,625	125,600	523		220		743	1/2	\$5,040,000	\$16.76	\$38,189	\$0.15	\$14.81	\$18,007,082	\$357,446	\$1.19
18.	Louisville	215,722	15,647	12	1,320	18		1,350	9	1,000,000	4.60	72,155	33	16.43	10,398,140	347,842	2.61
34.	Memphis	113,669	9,822	187	595			782	8	1,501,000	13.20	28,805	25	35.36	6,126,973	196,016	1.72
42.	Atlanta	96,550	7,040	189		6		155	2	174,987	8.1	12,501	13	15.77	3,590,944	153,452	1.59
48.	Richmond	86,148	3,924	58	320		172	580	14	875,000	10.16	29,936	33	18.86	7,364,063	109,465	1.27
50.	Nashville	83,275	6,322	76		10	12	550	11 1/2	20,000	24	3,675	04	15.15	3,584,300	92,043	1.11
63.	Savannah	64,741	4,320	72				72	11 1/2	5,005,200	77.31	10,407	16	13.60	3,184,227	98,199	1.52
70.	San Antonio	58,016	22,950	294				294	1 1/2	880,200	15.17	14,489	25	15.31	2,368,068	81,483	1.40
76.	Charleston	56,062	3,277	349	318			665	20	356,500	6.38	11,420	20	13.49	3,811,149	62,436	1.11
78.	Norfolk	55,318	3,688	95				95	3	252,000	4.55	14,829	27	18.32	5,615,928	69,256	1.25
82.	Houston	50,760	5,760	14				14	3 1/4	65,000	1.28	4,776	09	16.89	4,016,183	61,471	1.21
90.	Covington	44,789	1,510											12.14	2,174,552	39,854	.89
92.	Dallas	44,159	5,529	19				19	1 1/2	127,000	2.88	4,013	09	20.84	2,167,754	140,223	3.18
96.	Birmingham	42,087	4,053	30				30	3 1/2	210,000	4.99	2,814	07	16.29	2,572,191	82,238	1.95
97.	Little Rock	42,036	7,653	35		40		49	2 1/2	351,000	8.35	2,878	07	7.96	169,619	30,936	.74
100.	Augusta	41,283	2,684	23		63		63	2 1/2	107,800	2.60	526	01	12.62	1,848,360	61,273	1.48
102.	Mobile	40,686	4,510	6			5	11	5	601,300	14.78	2,231	05	16.00	3,182,601	53,539	1.32
108.	Knoxville	34,344	2,551	1			120	121	5					9.43	1,414,173	49,528	1.44
131.	Montgomery	32,884	1,553	50		12		62	4	25,000	.76	2,608	.08	11.47	2,040,031	30,900	.94
137.	Jacksonville	31,798	4,864	17				57	1 1/2	200,000	6.26	11,229	35	17.77	1,376,457	69,198	2.18
138.	Galveston	31,742	4,131	17		138		17	1 1/2	194,000	6.11	1,378	08	18.02	3,992,380	20,117	.63
148.	Chattanooga	29,349	2,696	2	12		23	37	1 1/2	118,000	3.45	5,536	18	11.45	952,300	37,218	1.22
150.	Newport	29,315	739	4				4	1 1/2	80,000	2.72			11.41	1,277,268	26,451	.90
158.	Lexington	27,869	2,012	25				25	1 1/2	38,000	1.36	379	01	13.13	799,421	45,566	1.64
160.	Fort Worth	26,892	4,269	90				50	1 1/4	38,000	1.93	1,954	07	22.10	1,928,486	48,347	1.69
	Columbia	22,836	2,560							25,000				14.81	1,196,243	*18,537	.77

*Of this amount \$17,514.24 was for street maintenance, cleaning and sprinkling, and \$923.17 for sewer maintenance. \$52,710.86 was expended on sewer construction.

2. LIST OF NATIVE TREES SUITABLE FOR STREET PURPOSES IN COLUMBIA. EXOTIC TREES

Oaks. The water, willow and laurel are species among the most suitable of the oaks for upland sandy streets. The Spanish and white oak are both fine trees, and undoubtedly do splendidly, especially down the middle of the streets, where they will have plenty of room to spread their large tops without being heavily pruned. The same is true of the live-oak, the basket-oak, the chestnut-oak, the overcup-oak, the red oak and the black oak. On some of the level streets and on some of the streets in the hollows, it is probable that the pin-oak will do well.

Elms. The winged, or small-leaf elm does much better on southern uplands than the white elm. Not only is it a longer-lived tree, but it maintains its shape much better and has a more graceful habit, with slender, pendulous branchlets. The elms are among the earliest deciduous trees to put out their leaves and form the finest arches of any tree ; and for these reasons they are very desirable.

Celtis, or Hackberry. Although the celtis is apparently not a long-lived tree and is disposed to decay, a large number of fine specimens show that where it is given adequate protection, is not starved, is not pollarded, and where the wounds are taken care of after pruning, it makes a fairly good shade tree. It finds favor in Columbia chiefly on account of the very early date at which it is in leaf, and the rapidity of its growth. It has no objectionable insects, and the leaves are light and fall gradually, though late in autumn. Columbia has thousands of celtis, however, that should be replaced by long-lived and large-growing trees.

Maples. The sugar-maple is the most desirable maple for planting in Columbia. This tree does well at Raleigh, North Carolina, and would certainly do well as far south as Columbia. The silver, or white maple is a fast-growing tree of medium height, but cannot be considered among the really best street trees. Sparing use is recommended.

Sweet-gum. This would be a desirable tree for center planting, but, on account of its large and hard fruit-cones, it would not be desirable along walks.

Hardy Catalpa should make an excellent and, during flowering time, a gorgeous shade tree. It adapts itself well to dry, sandy conditions and also grows luxuriantly in moist ground.

Evergreen Cherry. While a small tree, it has a symmetrical

crown, and its evergreen habit recommends it, as it would give some life to the streets during winter. Plant usually in center, or alternate.

Southern Magnolia. Another tree for evergreen effects; its distinct habit would make it very effective for center planting.

Tulip-tree, or Yellow Poplar. Grows splendidly in Columbia, and makes a good street tree. The tender bark is liable to permanent injury, however, but planted in park strips would be of highest value, and give variety.

American Linden, or Lime. A large-sized tree of rapid growth; best for low or moist streets.

Black Walnut. A large-growing tree of very distinct growth. suitable for low streets.

Willow. Both the white and black willows are of great value for very low streets.

Cypress. Does well on low and moist ground or uplands. Would create beautiful effects as a street tree, especially in center.

Ash. The green and the white ash are both found native around Columbia, and will make good street trees for low or medium ground.

Hickory. Many species occur at Columbia, and might be well used for street and park purposes.

Honey Locust. The fruit-pods of this tree are very dirty; otherwise it makes a good street tree.

Red Sweet or Bay (*Persea palustris*). Native tree of great value, but only for center planting; evergreen, rather thick, upright growth.

Gum. The black and swamp gum and tupelo grow abundantly around Columbia, but they are swamp trees and do best, therefore, in moist ground. The fall coloring is gorgeous. Difficult to transplant.

Box Elder A spreading tree of rapid growth, but of secondary value for street purposes.

EXOTIC STREET TREES

Sycamore. The European plane will undoubtedly do finely in Columbia, and several specimens of the native tree seem to indicate that it will also do well, though it is liable to blight.

Ginkgo. The condition of the row of these trees on Elmwood avenue indicates that they could be far more widely and advantageously used as a shade tree in Columbia than they are.

Golden Rain Tree (*Koelreuteria paniculata*). Medium-sized, 25

to 30 feet ; immense panicles of showy yellow flowers and striking pinnate leaves. A Chinese tree not yet sufficiently tested, but probably of great value for use in center planting for one or two streets.

Paulownia, or Empress Tree. Rapid growth and possibly of use in center planting. There are several fair specimens now in Columbia.

China Tree. Not native. Of use only for center planting ; form umbrella-shaped.

Varnish Tree (*Sterculia platanifolia*). One of the newer trees and probably of use for center planting. Showy, large shiny leaves and large panicles of yellowish flowers.

3. LIST OF NATIVE TREES OBSERVED IN AND AROUND COLUMBIA

This is not intended to represent a complete list, no special botanical investigation having been made, but it probably includes all the most common species of the vicinity, and shows what a rich flora Columbia has. These species were noted during our investigations in and around the city.

Acer tridens, Wood Trident Maple.

rubrum, L., Red Maple.

floridanum, Chapm., Southern Maple.

Alnus serrulata, Ait., Black Alder.

Aralia spinosa, L., Prickly Ash, or Hercules' Club.

Asimina triloba, Dunal, Papaw.

Betula nigra, L., River Birch.

Carpinus caroliniana, L., Hornbeam.

Catalpa bignonioides, Walt., Catalpa.

Celtis occidentalis, L., Hackberry.

Cercis canadensis, L., Red-bud.

Cornus sericea, L., Swamp Dogwood.

florida, L., Dogwood.

Cyrilla racemiflora, Walt.

Fagus ferruginea, Ait., Beech.

Fraxinus viridis, Mx., Green Ash.

profundis, Bush., Swamp Ash.

Gleditsia triacanthos, L., Honey Locust.

Hamamelis virginica, L., Witch-Hazel.

Hickoria olivæformis, Brit.

minima, Brit., Bitternut.

aquatica, Brit., Swamp Bitternut, or Water Hickory.

alba, Brit., Common, or White Hickory.

glabra, Brit., Pignut.

villosa, Ashe., Sand Hickory.

Ilex glabra, Ait., Holly.

cassine, L., Yaupon.



- Juglans nigra*, L., Black Walnut.
Juniperus virginiana, L., Red Cedar.
Kalmia latifolia, L., Mountain Laurel.
Liquidambar styraciflua, L., Sweet Gum.
Liriodendron tulipifera, L., Tulip Tree.
Magnolia fœtida, Sarg. (*M. grandiflora*, L.), Great Southern Magnolia.
 virginiana, L. (*glauc*a, L.) White Bay.
Melia azederach, L., China Tree.
Morus rubra, L., Native Mulberry.
Myrica cerifera, L., Wax Myrtle.
Negundo aceroides, Meunch., Box Elder.
Nyssa sylvatica, Marsh., Black Gum.
 aquatica, L., Swamp Gum.
 uniflora, Walt., Tupelo.
Oxydendrum arboreum, DC., Sourwood.
Persea palustris, Chapm., Red, or Sweet Bay.
Pinus echinata, Mill., Short-leaf Pine.
 tæda, L., Loblolly Pine.
 palustris, Mill., Long-leaf Pine.
 strobus, L., White Pine (in yards).
Platanus occidentalis, L., Sycamore.
Populus heterophylla, L., Cottonwood.
Prunus serotina, Ehrh., Wild Black Cherry.
 chicasa, Marsh., Chicasaw Plum.
 caroliniana, Ait., Evergreen Cherry, Mock Orange.
Pyrus angustifolia, Ait., Crab Apple.
Quercus phellos, L., Willow Oak.
 laurifolia, Mx., Laurel Oak.
 nigra, L., Water-Oak.
 marylandica, Meunch., Blackjack Oak.
 catesbæi, Mx., Sand Blackjack Oak.
 coccinea, Wang., Scarlet Oak.
 velutina, Lam., Black Oak.
 rubra, L., Red Oak.
 digitata, Sud., Spanish, or Southern Red Oak.
 pagodæfolia, Ashe., Swamp Spanish Oak.
 obtusiloba, Ait., Post Oak.
 alba, L., White Oak.
 margaretta, Ashe., Runner Oak.
 lyrata, Walt., Overcup Oak.
 michauxii, Nut., Swamp Chestnut, or Basket Oak.
 virginiana, Mill., Live Oak.
Salix nigra, L., Black Willow.
Sassafras sassafras, Karst.
Taxodium distichum, Rich., Southern Cypress.
Tsuga canadensis, Carr., Hemlock (in yards).
Ulmus americana, L., White Elm.
 alata, Mx., Winged, or Small-leaf Elm.
Vaccinium arboreum, Mx., Sparkleberry.
Viburnum rufo-tomentosum, Small Black Haw.

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